32321
S/020/61/141/[illegible]
B101/B[illegible]

24,7700 (1158, 1164, 1385)

AUTHORS: Pleskov, Yu. V., and Tyagai, V. A.

TITLE: Distribution of potentials on the interface germanium - electrolytic solution

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. [illegible]

TEXT: The dependence of the space charge on the electrode p[illegible] examined by measuring the surface recombination rate on the Ge [illegible] interface, and the photopotential $\Delta\varphi_{ex}$ (change of potential of [illegible] electrode on exposure). [illegible] was measured according to the de[illegible] photoconductivity of samples of [illegible](0.2 [illegible] 0.[illegible]) mm. The samp[illegible] etched with CP 4A (SR-4A). [illegible] N NaOH or [illegible] N H_2SO_4 were used as [illegible] electrolyte. A low voltage (50 mv) was applied to the [illegible] ends of the lamella. The sample was exposed to the lamp of a [illegible] stroboscopic tachometer (20 - 40 imp/sec, impulse time about 5 μsec [illegible] being proportional to photoconductivity was amplified by an [illegible] wide band amplifier and reproduced on the screen of an [illegible] (O[illegible]).

Card 1/4

PLESKOV, Yu.V. (Moscow)

Role of free and valence electrons in reduction reactions on a germanium electrode. Zhur.fiz.khim. 35 no.11:2576-2581 N '61. (MIRA 14:12)

1. Akademiya nauk SSSR, Institut elektrokhimii.
(Electrodes, germanium)
(Reduction, Electrolytic)
(Electrons)

PLESKOV, Yu.V. (Moscow)

Kinetics of reduction reactions on a germanium electrode. Zhur. fiz.khim. 35 no.11:2540-2546 N '61. (MIRA 14:12)

1. Akademiya nauk SSSR, Institut elektrokhimii.
(Electrodes, germanium)
(Reduction, Electrolytic)

81413

The Rôle of Minority Carriers in the Process of Anodic Dissolution of Electronic Germanium

S/020/60/132/06/38/068
B004/B005

2 German.

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: February 12, 1960, by A. N. Frumkin, Academician

SUBMITTED: February 8, 1960

Card 3/3

The Rôle of Minority Carriers in the Process of Anodic Dissolution of Electronic Germanium

S/020/60/132/06/38/068
B004/B005

was a p-n transition (area 0.2 cm^2) on one side of the disk-shaped electrode (diameter 8 mm), the electrolyte (1 N H_2SO_4) being on the other side of the electrode (area 0.25 cm^2). An ohmic contact was soldered to the periphery of the electrode. The injection of holes occurred in p n transition. The increase ΔI_a of the current of anodic dissolution in dependence on the injection current I_p was recorded. The potentiostat used was an electronic polarograph of type ПЭ-312 (PE-312). Fig. 1 shows the dependence ΔI_a on I_p in the dark and with differently intensive lighting E. Fig. 2 shows the diagram $d(\Delta I_a)/dI_p$, I_p, Fig. 3 the diagram $d(\Delta I_a)/dI_p$, E. The experimentally found value $\alpha_o' = 1.65$ shows that 2.4 holes and 1.6 electrons are consumed without injection in the transition of a germanium atom from the crystal lattice into the solution. With injection, the ratio changes, and attains 3.9, and 0.1, respectively with maximum I_p These results suggest that α' is not connected with a certain reaction scheme. The author thanks B. N. Kabanov, Professor, for his discussion. There are 3 figures and 9 references: 1 Soviet, 4 US, 2 British, and

Card 2/3

81413

S/020/60/132/06/38/068
B004/B005

24.7700
5.4600

AUTHOR: Pleskov, Yu. V.

TITLE: The Rôle of Minority Carriers in the Process of Anodic Dissolution of Electronic Germanium

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6, pp. 1360 - 1363

TEXT: At a low current density of the anodic dissolution of n-type germanium, the holes play the part of minority carriers, and the boundary Ge-electrolyte acts as a hole collector with the current intensity increasing. The summated equation for this reaction is: $Ge + x\oplus + 3H_2O \longrightarrow H_2GeO_3 + (4 - x)\oplus + 4H^+$. For the coefficient α_0' of the current increase ($\alpha_0' = 4/x$), different values are given in Refs. 1-4. In the present paper, the author studies the dependence of α_0' under the conditions of anodic dissolution of germanium. The measurement of α' was made according to Ref. 1. The electrode consisted of n-Ge, the specific resistance was 3 ohm.cm, the diffusion length of the holes 0.7 mm. There

Card 1/3

Reduction Reactions on a Germanium Cathode SOV/20-130-2-34/69

electrodes he made available. There are 3 figures, 1 table, and 9 references, 3 of which are Soviet

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: September 17, 1959, by A. N. Frumkin, Academician

SUBMITTED: September 10, 1959

Card 4/4

Reduction Reactions on a Germanium Cathode SOV/20-130-2-34/69

ment. The low values of α in the reduction of $K_2Cr_2O_7$, and the lacking injection in the reduction of H_2O_2 are explained by the highly negative potential of these reactions, which already develop on an electrode which has absorbed hydrogen. The polarization curves of the Pt- and n-Ge electrodes have a well-marked wave with a boundary current of equal density which is proportional to the square root of the angular velocity of the rotating electrodes (Fig 2). The reduction rate is thus determined by the diffusion of the oxidizing agents to the electrode surface, and does not depend on the material of the electrode. The polarization curves of p-Ge are shifted by 0.2-0.3 v in a negative direction, but they change under the influence of light on the position of the curves for n-Ge (Fig 3). The experimental results are explained by the participation of free and valence-electrons in the reaction in dependence on the energy level of the oxidizing agents. In conclusion it is mentioned that the authors thank Professor B. N. Kabanov for his assistance in evaluating the results obtained, and I. G. Yerusalimchik for the

Card 3/4

practically with that of I⁻. The polarization curves were recorded by means of the same polarograph on rotating disk electrodes made from Pt and monocrystalline n Ge or p Ge. Before measurement the electrodes were etched with the mixture SR-4. Measurements were made in the dark in a pure nitrogen atmosphere. Figure 1 shows the dependence of i_{coll} on I_{red} for the oxidizing agents $KMnO_4$, $K_3Fe(CN)_6$, KJ_3, chinon, $K_2Cr_2O_7$, and H_2O_2. In table 1 the experimental data are given. The reduction of H_2O_2 continues to exert an influence on I_{coll} and is therefore not accompanied by an injection of holes. In $K_3Fe(CN)_6$ and $KMnO_4$ the value of α is influenced by the concentration of the oxidizing substance, in KJ_3 it does not depend on concentration. The values of α are considerably influenced by the nature of the electrode surface and decrease as soon as the negative Ge-potential approaches the potential of hydrogen develop-

5.4600
5(4)

SOV/20-130-2-34/69

AUTHOR: Pleskov, Yu. V.

TITLE: Reduction Reactions on a Germanium Cathode

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 2, pp 362 - 365 (USSR)

ABSTRACT: It was the aim of this paper to investigate the kinetics of some reductions on germanium electrodes and measuring the injection coefficient. The production of a germanium triode is described. It consists of an n-Ge-single crystal with annular ohmic Ni contact of a p-n junction produced by melted-in indium and working as a collimator, and a surface acting as emitter and not insulated by silicon varnish and paraffin. The alteration ΔI_{coll} of the collector current in dependence on the reduction current I_{red} was recorded by means of a polarograph of the type PE 312; the coefficient

$$\gamma = \frac{\Delta I_{coll}}{I_{red}}$$

was determined, the value of which agreed

Card 1/4

BELYANCHIKOV, M.P.; PLESKOV, Yu.V.; POMINOV, V.G.

Instrument with a rotating disc electrode. Zhur.fiz.khim. 34 no.7:1638-1642 Jl '60. (MIRA 13:7)

1. Akademiya nauk SSSR, Institut elektrokhimii.
(Electrodes) (Chemical apparatus)

PLESKOV, Yu.V. (Moscow)

Method of separating two processes occurring at an electrode simultaneously. Zhur. fiz. khim. 34 no.3:623-626 Mr '60.
(MIRA 13:11)

1. Akademiya nauk SSSR, Institut elektrokhimii,
(Electrochemistry)

[illegible]

[illegible]

of Physical Chemistry, AS USSR)

The Injection and Extraction of Minority Carriers on the Surface of a Germanium Electrode as a Result of Electrochemical Processes

SOV/20-126-1-30/62

the effect of the injection is reduced. Apparently, this surprising effect is due to the fact that the hydrogen separated on the electrode enters the crystal lattice of the semiconductor and shortens the life of the minority carriers. The author thanks Professor B. N. Kabanov for his assistance in evaluating results. There are 3 figures and 8 references, 3 of which are Soviet.

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: February 3, 1959 by A. N. Frumkin, Academician

SUBMITTED: January 31, 1959

Card 3/3

electrode. On this occasion, the potentials of the electrode were measured. As the thickness of the electrode was less than the diffusion path of the holes, an injection or an extraction of holes on one side of the electrode was bound to influence the reaction on the other side of the electrode. As indicator process, the anodic dissolution of germanium was selected. This side of the electrode is called the indicator side, the other is called the polarization side. The lack of through-going pores and of electric fields within the electrode was investigated. Figure 1 shows the polarization curve of the indicator process in 1-n-sulphuric acid and also shows the decrease of hole concentration as a result of extraction. Figures 2 and 3 show the effect produced by the separation of hydrogen upon the injection of the holes in the reduction of $K_3Fe(CN)_6$. The ion $Fe(CN)_6^{3-}$ reduced on the germanium electrode thus does not receive the electrons from the free zone but from the valence zone of the semiconductor. With increasing separation of hydrogen,

5(4)
AUTHOR: Pleskov, Yu. V.

SOV/20-126-1-30/62

TITLE: The Injection and Extraction of Minority Carriers on the Surface of a Germanium Electrode as a Result of Electrochemical Processes (Inzhektsiya i ekstraktsiya neosnovnykh nositeley toka na poverkhnosti germaniyevogo elektroda v rezul'tate elektrokhimicheskikh protsessov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 1, pp 111-114 (USSR)

ABSTRACT: The present paper investigates the mechanism of some processes on a germanium electrode, which consisted of a single crystal of the type n-Ge with a specific resistance of 2.5 ohm.cm and a free diffusion length of path of the hole of 0.7 mm; it was a disk of 6 mm diameter and 0.1 mm thickness. It served as the bottom of a funnel-shaped polystyrene vessel which was open at the bottom, which was dipped into an electrolytic cell. The electrode therefore with one of its surfaces touched the solution in the cell, and with the other the solution in the polystyrene vessel. By means of two independent electric circuits it was possible, ad libitum, to send a current through one of the two surfaces of the

Card 1/3

Germanium anode thus does not influence the kinetics of the oxidation of bivalent vanadium. There are 1 figure, 1 table, and 7 references, 3 of which are Soviet.

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR)

PRESENTED: July 22, 1958, by A. N. Frumkin, Academician

SUBMITTED: July 21, 1958

The Oxidation of Bivalent Vanadium on a Germanium Anode

concentration of V^{II} and to the square root of the angular velocity ω of the electrode; it can be several times greater than the "current of saturation" of the dissolution of germanium. According to these results, the ions of V^{II} are oxidized on the germanium anode (germanium being dissolved simultaneously) in that region of potentials in which the dissolution rate of germanium has its maximum value. Under these experimental conditions, the rate of oxidation of V^{II} is markedly higher than the diffusion rate of the holes. Holes are therefore not necessary for the oxidation of V^{II} on a germanium anode. On a revolving disk electrode of platinum, the ions V^{II} are oxidized to V^{III}, the maximum current being proportional to the concentration of V^{II} and to the square root of the angular velocity ω of the electrode. The rate of oxidation of bivalent vanadium on anodes of germanium and platinum depend on the rate of diffusion of V^{II} ions from the interior parts of the solution to the surface of the electrode. The semiconductor character of the

5(4) SOV/20-123-5-32/50

AUTHORS: Pleskov, Yu. V., Kabanov, B. N.

TITLE: The Oxidation of Bivalent Vanadium on a Germanium Anode (Okisleniye dvukhvalentnogo vanadiya na germaniyevom anode)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5, pp 884-886 (USSR)

ABSTRACT: The authors investigated the oxidation of ions of bivalent vanadium on a revolving disk electrode of single crystaline n-type germanium (specific resistance 1.8 Ohm.cm, diffusion length 0.3 mm). The solution of bivalent vanadium was prepared by the reduction of V_2O_5 in a solution of H_2SO_4 by amalgamated zinc. The rate of oxidation of germanium does not depend on the intensity of mixing the solution and beginning with a potential of 0.5 v it is limited by the rate of diffusion of the holes from the interior parts of the sample to its surface ("saturation current"). If bivalent vanadium is introduced into a solution in which germanium is dissolved at potentials more positive than 0.5 v, the current (which flows through the electrode at a constant potential) increases sharply. This increase ΔI is proportional to the

Card 1/3

PLESKOV, Yu.V.

Electrochemistry of semiconductors. Khim. nauka i prom. 3 no.4:443-448 '58. (MIRA 11:10)

(Electrochemistry)

The Representation of Bi- and Trivalent Silver in Alkaline Solutions on a Rotating Disc-Electrode.

There are 3 figures and 9 references, 4 of which are Slavic.

ASSOCIATION: Institute of Physical Chemistry AN USSR (Institut fizicheskoy khimii Akademii nauk SSSR).

PRESENTED: May 21, 1957, by A. N. Frumkin, Academician.

SUBMITTED: May 14, 1957

AVAILABLE: Library of Congress

Card 3/3

The Representation of Bi- and Trivalent Silver in Alkaline Solutions on a Rotating Disc-Electrode. 20-4-28/52

second wave, which is twice as high, corresponds to the oxidation of the ions $[Ag_3O(OH)_2]^-$ with respect to the oxide of the trivalent silver. With the here discussed new method for the separation of the diffusion current and of the current non proceeding from the diffusion on the disc electrode, it was clearly proved that with the anodic polarization of Ag_2O--solutions in a strong lye, the silver oxidizes to Ag_2O_2. But with sufficiently high potentials the oxidation leads to trivalent silver. The potential of the electrode covered with the oxides of bivalent and trivalent silver begins at φ = 1,0 V, after interruption of the anodic polarization, to decrease rapidly, and after some minutes it assumes the value 0,6 V. Apparently the trivalent silver in the basic solutions is not very stable. The author then tried to evaluate the stability of the Ag^{III}-ions. In spite of the here found small stability of the Ag^{III} -ions in the solution, the here obtained results permit the following conclusion: The oxidation-reduction-processes on a silver electrode in an alkaline electrolyte can take place not only in the solid phase, but also by way of the solution.

Card 2/3

PLESKOV, YU. V.

20-4-28/52

AUTHOR: Pleskov, Yu. V.

TITLE: The Representation of Bi- and Trivalent Silver in Alkaline Solutions on a Rotating Disc-Electrode (Obrazovaniye dvukh- i trekhvalentnogo serebra v shchelochnykh rastvorakh na vrashchayushchemsya diskovom elektrode).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 4, pp. 645-647 (USSR)

ABSTRACT: The mechanism of the oxidation of a silver electrode in alkaline electrolytes is still unclear up to now. In particular it is not known whether oxidation takes place in the solid phase, or whether the silver ions pass over into the solution for being subsequently discharged on the electrode. The author therefore investigated both the oxidation and reduction of alkaline Ag_2O-solutions. The author used a gold electrode as anode and he plotted the curves in the KOH--solutions saturated with Ag_2O at various speeds of rotation of the electrode. One of these curves is reproduced in a diagram, to serve as an example. Simultaneously with the oxidation of Ag_2O, oxygen is separated on the anode. The author computed the polarizing cycle for the oxidation of Ag_2O; it has two waves. The first wave corresponds to the oxidation of the ions $[Ag_3O(OH)_2]^-$ with respect to Ag_2O_2 and the

Card 1/3

PLESKOV, YU. V.

Journal of Physical Chemistry

Vol. XXXI, No. 2, 1957 pp 205-213

1

THE ELECTROCHEMICAL OXIDATION AND REDUCTION OF SOME ORGANIC COMPOUNDS AT THE ROTATING DISC ELECTRODE

6

B. A. Arbuzov and Yu. V. Pleskov (Moscow)

1-PE 47

Summary

The kinetics of the anodic oxydation of hydroquinone and ethyl and butyl alcohols and of the cathodic reduction of quinone were investigated with the help of a rotating disc electrode. Diffusion coefficients were calculated from the values of diffusion limiting currents on the basis of V. Levich's theory; the diffusion coefficients of hydroquinone and quinone in 2N KCl at 21° C are equal resp. to $0.91 \cdot 10^{-5}$ and $1.10 \cdot 10^{-5}$ cm²/sec.

The velocity of oxydation of ethanol and butanol on platinum at sufficiently high positive potential is limited by the activated adsorption step and decreases with increasing anodic polarization. At small alcohol concentration ($5 \cdot 10^{-2}$ M) the oxydation rate decreases with increasing rotation speed which points to an autocatalytic mechanism of the process.

Moscow State Univ

AUTHOR: Pleskov, Yu.V. 105-9-18/32

TITLE: Galvani, Luigi. (Luidzhi Gal'vani)

PERIODICAL: Elektrichestvo, 1957, Nr 9, pp. 63-65 (USSR)

ABSTRACT: 9.9.1737 - 2.12.1798. On his 220 Birthday. A short biography of Galvani, who was born at Bologna, finished the studies at the medical faculty at Bologna University, married the daughter of Professor of anatomy Lucia Galeazzi. After the death of his father-in-law, Galvani is given the university chair for anatomy. In 1762 he took his doctor's degree. In 1782 he was awarded the chair for gyneacology and midwifery. In 1780-1791 he made his famous discovery on which in 1791 he published his famous treatise on the "Forces of Electricity During Muscular Movement". The difference of opinion between himself and Volta with respect to the nature of electricity and discussions held in this connection are discribed. It is shown that Galvani's ideas with respect to animal electricity were, after all, not so wrong. Today electrophysiology developed considerably. P.P. Lazarev, member of the Academy, developed the ion theory of exciation, in which also other Soviet scientists participate. There is 1 figure.

ASSOCIATION: Institute for Physical Chemistry of the AN USSR. (Institut fizicheskoy khimii AN SSSR)

Available: Library of Congress

Card 1/1

Composition of the complex silver ion in strongly alkaline solutions. Yu. V. Pleskov and B. N. Kabanov. *Zhur. Neorg. Khim.* [illegible].—Potentiometric and polarographic methods were used to det. the compn. of the complex Ag^+ ion in solns. of KOH whose concns. vary from 3 to 15 molal. The compn. of the ion in such solns. is $[Ag_2O(OH)_4]^{-}$. The soly. of Ag_2O in KOH was measured by means of a rotating disk electrode, and the diffusion coeff. was calcd. for different KOH concn. The soly. of Ag_2O increases as the concn. of KOH increases. J. Rovtar Leach

1/. Distr: 4E4j/4E2c

Inst. Phys. Chem., AS USSR

Use of a synchronous electric drive for rolling mills. Elektrichestvo no.10:31-34 O '60. (MIRA 13:9)
(Rolling mills--Electric driving)

PLESKOV, Yu. Y.

PLESKOV, V. I.

AID P - 3357

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 15/27

Author : Pleskov, V. I., Eng.

Title : Use of low-voltage synchronous generators as motors

Periodical : Energetik, 9, 26, S 1955

Abstract : The author finds that since low-voltage synchronous motors are produced only for 750 to 1000 rpm and 56 to 190 kw, the use of synchronous generators as motors is efficient for apparatus requiring drives from 20 to 60 kw. He presents a table for starting connection schemes and describes his own experience in that field.

Institution : None

Submitted : No date

S/105/60/000/010/002/004
B012/B063

AUTHORS: Pleskov, V. I., Docent, and Magazinnik, G. G., Engineer (Gor'kiy)

TITLE: The Use of a Synchronous Drive for Rolling Mills 14

PERIODICAL: Elektrichestvo, 1960, No. 10, pp. 31-34

TEXT: In 1959, the steam engine driving the three-roller mill 750 was replaced by a synchronous motor of the type СДП-2500-100 (SDP-2500-100). The present paper briefly describes the results obtained. The automatic excitation control provided for a constant operation with idle power. Experience has shown that the controller did not guarantee the motor excitation required for peak loads and could only operate with slowly varying loads (see oscillogram in Fig. 3). The circuit diagram shown in Fig. 1 for this automatic control of excitation is therefore unsuitable. I. A. Syromyatnikov came to an analogous conclusion (Ref. 6). Therefore, the circuit diagram shown in Fig. 4 was used for excitation control. In the case of this circuit, excitation is controlled as a function of the active component of the stator current of the synchronous motor. The

Vsesoyuznoye ob"yedinennoye soveshchaniye po avtomatizatsii proizvodstvennykh protsessov v mashinostroyenii i avtomatizirovannomu elektroprivodu v promyshlennosti. 3d, Moscow, 1959

Elektroprivod i avtomatizatsiya promyshlennykh ustanovok; trudy soveshchaniya (Electric Drive and Automation in Industrial Systems; Transactions of the Conference) Moscow, Gosenergoizdat, 1960. 470 p. 11,000 copies printed.

General Eds.: I.I. Petrov, A.A. Sirotin, and M.G. Chilikin; Eds.: I.I. Sad, and E.F. Silayev; Tech. Eds.: K.P. Voronin, and G.Ye. Larionov.

PURPOSE: The collection of reports is intended for the scientific and technical personnel of scientific research institutes, plants and schools of higher education.

COVERAGE: The book is a collection of reports submitted by scientific workers at plants, scientific institutes and schools of higher education at the third Joint All-Union Conference on the Automation of Industrial Processes in Machine Building and Automated Electric Drives in Industry held in Moscow on May 12-16, 1959. The Conference was called by the Academy of Sciences USSR, the Gosplan SSSR (State Planning Commission USSR), the GNTK SSSR, the Gosudarstvennyy Komitet po avtomatizatsii i mashinostroyeniya (State Committee on Automation and Machine Building) and the Natsional'nyy Komitet SSSR po avtomaticheskomu upravleniyu (USSR National Committee on Automatic Controls) and prepared by the Nauchno-tekhnicheskiy komitet po avtomatizirovannomu elektroprivodu (Scientific and Technical Committee on Automated Electric Drives), the MEI (Moscow Institute of Energetics), the VNIIEM, the IAT (Institute of Automation and Telemechanics) of the Academy of Sciences USSR, and the Komissiya po tekhnologii mashinostroyeniya Instituta mashinovedeniya AN SSSR (Commission on the Technology of Machine Building of the Institute of Science of Machines of the Academy of Sciences USSR). It was the purpose of the Editorial Board to arrange the reports in a way which would ensure a relatively systematic presentation of theoretical and practical problems relating to electric drives and automatic controls of industrial mechanisms used in various branches of industry. Basic problems of automated electric drive and their solution are outlined. The book also contains articles on electric machinery and means of automation. Considerable attention is paid to non-contact automatic control systems, including systems with semiconductor devices and magnetic amplifiers, and to computers intended both for the analysis and the synthesis of linear and nonlinear automatic regulatics and control systems. Reports already published in journals or official publications have been considerably abbreviated; those which have appeared in volume V of NII EP transactions or in the journal "Elektrichestvo" are marked with an asterisk. No personalities are mentioned. References accompany some of the papers.

PART I. GENERAL PROBLEMS CONCERNING THE THEORY AND PRACTICE OF ELECTRIC DRIVE AND AUTOMATION OF CONTROL

PLESKOV, V.I., dotsent; MAGAZINNIK, G.G.; RAYEVSKIY, B.A., inzh.

An electronic drive for a 750 mm. blooming mill. Elektrichestvo no.7:70-75 Jl '62. (MIRA 15:7)

(Electric driving)
(Electric current rectifiers)
(Milling machines--Electric driving)

PLESKOV, V.I., dotsent

Use of synchronous drives in rolling mills with impact load exceeding the static overload rating of the motor. Trudy GPI 16 no.5:79-83 '60. (MIRA 16:4)

(Rolling mills--Electric driving)

PLESKOV, V.I., dotsent

Use of an electronic modeling technique in the study of the automatic control system of the electrode drive of a 750 mm. blooming mill. (MIRA 17:10)
Trudy GPI 19 no.3:64-75 '63.

BAMDAS, A.M.; BOL'SHAM, Ya.M.; BORCHANINOV, G.S.; GLAZUNOV, A.A.; ZALESSKIY, A.M.; KONSTANTINOV, B.A.; LIVSHITS, D.S.; LYCHKOVSKIY, V.L.; MILLER, G.R.; PETROV, I.I.; PLESKOV, V.I.; SAMOYER, M.L.; SYROMYATNIKOV, I.A.; CHILIKIN, M.G.

Professor IUrii Leonidovich Mukoseev; 1905, on his 60th birthday. Elektrichestvo no.6:91 Je '65. (MIRA 18:7)

L 22593-66
ACC NR: AP6013000

cheskiy institut (Moscow Power Institute) he defended his thesis "Distribution of Alternating Currents in Current Conductors". He became professor in 1960. From 1939 he has been continously the vice-president of the Gorkiy board of the Scientific-Engineering Society of Power Engineers (NTO energetikov). Recently, Yu. L. Mukoseyev participated in the work of the Uchebno-metodicheskaya komissiya MV (Pedagogical-Methodological Commission of the Ministry of Armament) and of the SSO [?] USSR for the Electrical Supply of Industrial Enterprises and of Cities." Orig. art. has: 1 figure. [JPRS]

SUB CODE: 10 / SUBM DATE: none

Card 2/2

L 22593-66
ACC NR: AP6013000 SOURCE CODE: UR/0105/65/000/006/0091/0091

AUTHOR: Bamdas, A. M.; Bol'sham, Ya. M.; Borchaninov, G. S.; Glazunov, A. A.; Zalesskiy, A. M.; Konstantinov, B. A.; Livshits, D. S.; Lychkovskiy, V. L.; Miller, G. R.; Petrov, I. I.; Pleskov, V. I.; Samover, M. L.; Syromyatnikov, I. A.; Chilikin, M. G.

ORG: none

TITLE: Professor Yu. L. Mukoseyev (on the occasion of his 60th birthday)

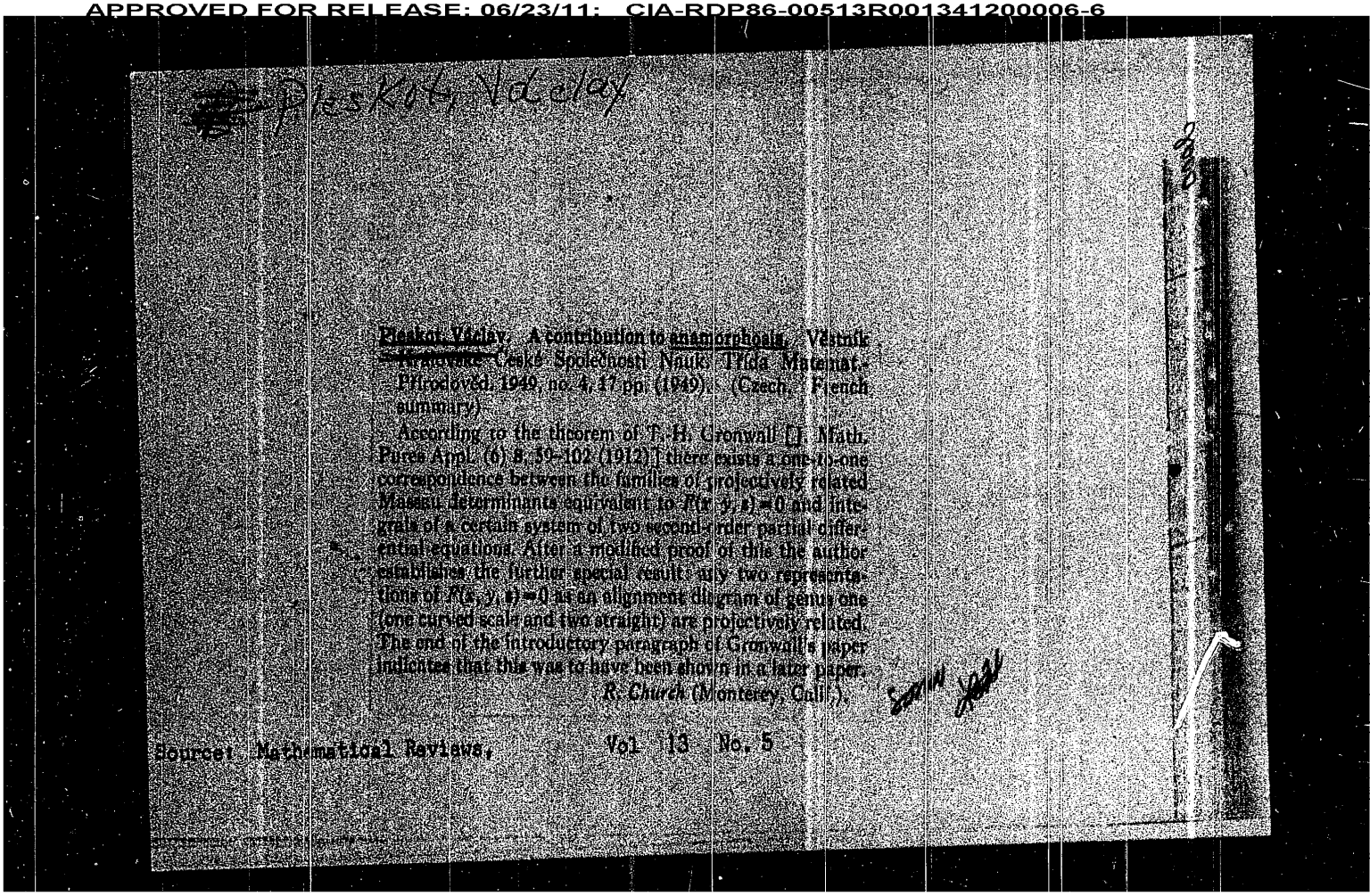
SOURCE: Elektrichestvo, no. 6, 1965, 91

TOPIC TAGS: scientific personnel, electric power production

ABSTRACT: Professor Yuriy Leonidovich Mukoseyev, 60, chairman of the department "Elektrosnabzheniye promyshlennykh predpriyatiy i gorodov (Electrical Supply of Industrial Enterprises and Cities)" of the Gor'kovskiy politekhnicheskiy institut (Gor'kiy Polytechnic Institute) began his studies at the Gorkiy (Nizhegorod) University. After several years at the "Krasnoye Sormovo" plant he joined in 1935 the Glavelektromontazh system where in 27 years he advanced to the position of chief engineer of the Gorkiy section of the designing institute Elektroproyekt. In 1951 he published his book "Voprosy elektrosnabzheniya promyshlennykh predpriyatiy (Problems of Electrical Supply of Industrial Enterprises)"; in 1956 at the Moskovskiy energeti-

UDC: 621.311

Card 1/2



Pleskot, Václav. A contribution to anamorphosis. (Czech. French summary) Věstník Královské České Společnosti Nauk. Třída Matemat.-Přírodověd. 1949, no. 4, 17 pp. (1949).

According to the theorem of T. H. Gronwall [J. Math. Pures Appl. (6) 8, 59–102 (1912)] there exists a one-to-one correspondence between the families of projectively related Massau determinants equivalent to $F(x, y, z) = 0$ and integrals of a certain system of two second-order partial differential equations. After a modified proof of this the author establishes the further special result: any two representations of $F(x, y, z) = 0$ as an alignment diagram of genus one (one curved scale and two straight) are projectively related. The end of the introductory paragraph of Gronwall's paper indicates that this was to have been shown in a later paper.

R. Church (Monterey, Calif.).

Source: Mathematical Reviews, Vol. 13, No. 5

PLESKOT, Vaclav, prof. dr.

Principles of programming for automatic computers. [illegible]
obzor 53 no. 6:Suppl.Prakticka priloha 53 no. 6:T9-T18 '64

PLESKOT, V.

"Academician Zdenek Bouchal dies", P. 377 ., SHORT IN TRANSACTIONS, Vol.20, No. 4, Dec. 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

PLESKOT, V.

"Professor Vaclav Hruska dies; also, a list of his scientific works", P. 375., (SBORNIK TRANSACTIONS, Vol. 79, No. 4, Dec. 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

PLESKOT, V.

Vaclav Hruska's Pocet graficky a grafickomechanicky (Graphic and Graphic-Mechanical Calculations); a book review.

p. 233 (CASOPIS PRO PESTOVANI MATEMATIKY) Vol. 82, no. 2, May 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3, March 1958

PLESKOT, VACLAV

*Pleskot, Václav. Nomografie a grafický počet v technické praxi. [Nomography and graphical calculation in technical practice.] 2d ed. Knihovna Spolku Posluchačů a Absolventů Strojního a Elektrotechnického Inženýrství, spis čís. 103, Praha, 1949. 271 pp.

Although this planographed book does not offer new results, it gives a systematic treatment of the field which is rather complete. Historical notes and references to the literature are scattered throughout. After introducing scales and nets (20 pages) and treating intersection diagrams (54 pages with 17 completely executed charts) the various [illegible] forms for $F(x, y, z)=0$ are discussed in the chapter on alignment diagrams (106 pages with 25 completely executed charts) where attention is also given to duality, projective transformations, binary scales and nets, composite charts, and especially the [illegible] factors. This part closes with a short chapter on diagrams with sliding planes (six completely executed examples with detachable transparent planes) and a list of 75 classified problems. The last part (50 pages, practically independent of the first part) is devoted to graphical means for performing the operations of arithmetic and analysis, plotting of functions, and finding roots of equations.

R. Church (Monterey, Calif.).

Source: Mathematical Reviews, Vol 13 No. 6

PLESKOV, P.M., inzh.

Selecting the length of a stope during blast mining of coal "without workers" in mines of the Prokop'evsk-Kiselevsk Region. Izv. vys. ucheb.zav.; gor. zhur. 6 no. 12:8-13 '63. (MIRA 17:5)

1. Kemerovskiy gornyy institut. Rekomendovana kafedroy razrabotki poleznykh iskopayemykh.

PLESKOV, K.

The Soviet land. Moskva, Ministerstvo prosveshchenlia RSFSR, 1950. 311 p.

1. Geography, Economic - Russia.

KRAVCHENKO, A.A.; BOGOMOLOVA, Ye.R.; PLESKOV, K.I.; YUDIN, Yu.O.

Problem of clinical and morphological changes of the upper respiratory tract and ear in leukoses. Vest. otorin. 22 no. 4:33-38 Je-Ag '60.
(MIRA 13:12)

(RESPIRATORY ORGANS) (EAR) (LEUKEMIA)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200006-6

KRAVCHENKO, A.A., PLESKOV, K.I.

Use of glutamic acid in the otorhinolaryngological clinic.
Vest.oto-rin. 20 no.6:121 N-D '58 (MIRA 11:12)

1. Iz kliniki bolezney ukha, gorla i nosa (dir. - prof. I.Ya. Sendul'skiy) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta.
(OTORHINGOLARYNGOLOGY)
(GLUTAMIC ACID)

PLESKOV, K.I.

SVETLAKOV, M.I., dotsent, KRAVCHENKO, A.A., kand.med.nauk, PLESKOV, K.I.

Use of hemopoietic stimulators in radiotherapy for cancer of the larynx. Vrach.delo no.5:527 My '58 (MIRA 11:7)

1. Klinika bolezney ukha, gorla i nosa (zav. - prof. I.Ya. Sendul'skiy) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta i TSentral'nogo instituta usovershenstvovaniya vrachey.
(LARYNX--CANCER)
(LEUCOPENIA)
(X RAYS--PHYSIOLGICAL EFFECT)

KRAVCHENKO, A.A.; BOGOMOLOVA, Ye.R.; PLESKOV, K.I.; YUDIN, Yu.G.

Clinical and morphological changes in the ear, nose and throat in reticulosis with a tumorlike growth. Vop. klin. pat. no.2:244-251 '61 (MIRA 16:1)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - zasluzhennyy deyatel' nauki prof. I.Ya. Sendul'skiy) i patomorfologicheskogo otdela (zav. - prof. S.B.Vaynberg [deceased]) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni Vladimirskogo.

PLESKOV, K.

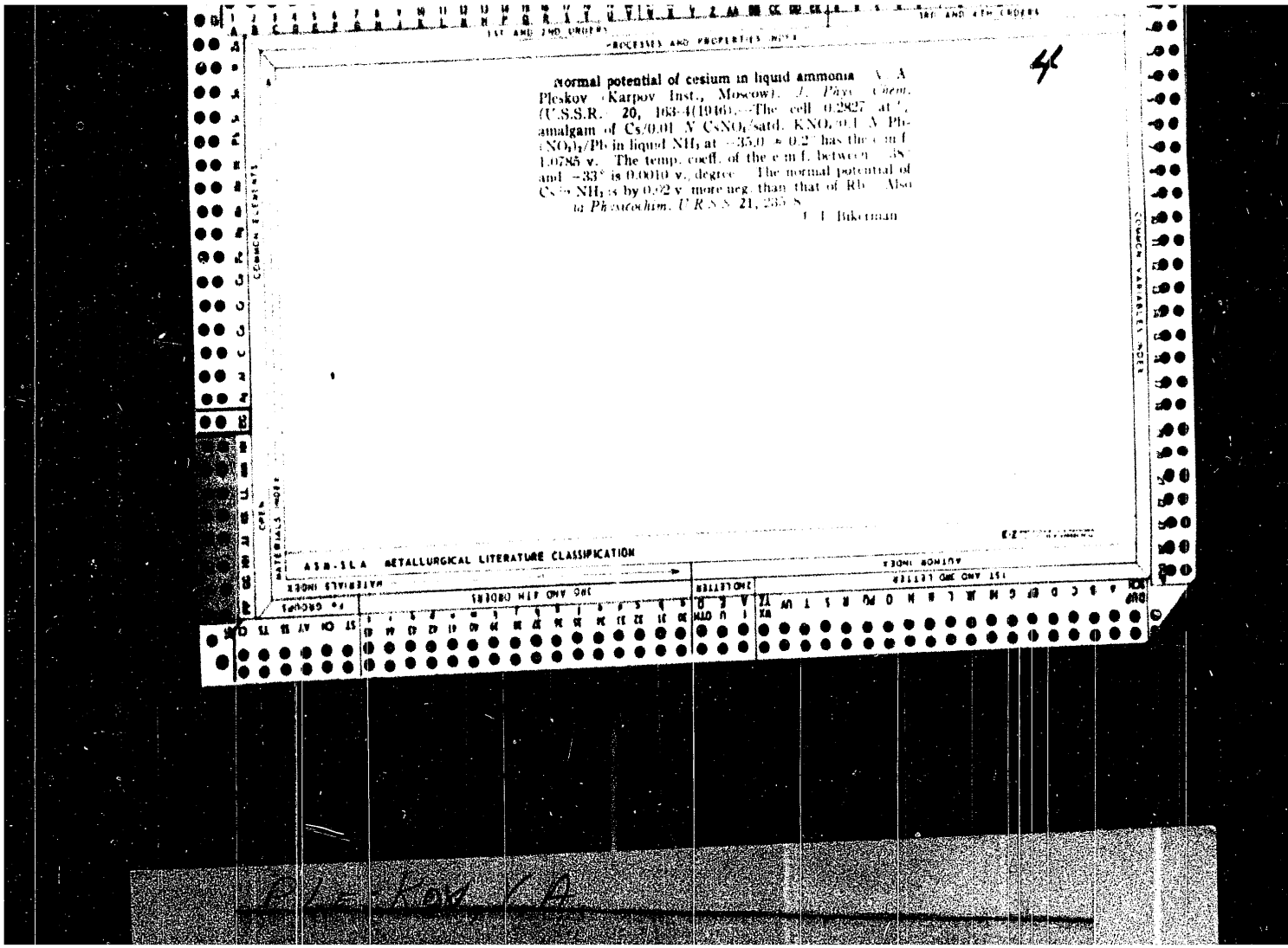
"Radio communications in the Soviet Army."

So. Radio, Vol. 2, n. 4, 1952

PLESKOV, V.A.

*Investigation of the Reaction of Exchange of Ions Between the Electrode and the Solution by a Method of Radioactive Indicators. V. A. Pleskov and N. B. Miller (*Trudy Soveshchaniya po Elektrokhimii* [illegible]—In Russian). Radioactive indicators were used to measure the exchange current (I) between amalgams and soln. contg. ions of the amalgamated metal at various concentrations: Bi-Hg with $BiCl_3$/HCl and ether soln. of $BiCl_3$; Zn-Hg with $ZnSO_4$, $ZnSO_4$/KCN, $ZnSO_4/NH_3$, and $ZnSO_4$/Na citrate; Pb-Hg with $Pb(NO_3)_2$. For nearly saturated amalgams in pure conc. soln., $I \cong 0.1$ amp/cm². Complex formation greatly reduced I, the exchange being especially retarded if the metal entered a complex anion. The adsorption of surface-active substances on the electrode surface led to a sharp reduction in the exchange rate and in some cases to the complete cessation of exchange. The effect is particularly great with electrostatically adsorbed surface-active ions.—G. V. E. T.

(1) PH



Normal potential of cesium in liquid ammonia. V. A. Pleskov (Karpov Inst., Moscow). *J. Phys. Chem. (U.S.S.R.)* **20**, 163–4(1946).—The cell 0.2827 at.% amalgam of Cs/0.01 *N* $CsNO_3$/satd. KNO_3/0.1 *N* $Pb(NO_3)_2$/Pb in liquid NH_3 at $-35.0 \pm 0.2°$ has the e.m.f. 1.0785 v. The temp. coeff. of the e.m.f. between $-38°$ and $-33°$ is 0.0010 v./degree. The normal potential of Cs/Cs$^+$ in NH_3 is by 0.02 v. more neg. than that of Rb. Also in *Physicochim. U.R.S.S.* 21, 235–8.

I. I. Bikerman

The normal electrode potential of nitrogen and the decomposition potential of solutions in liquid ammonia. V. A. Pleskov (Karpov Inst. Phys., Moscow). *J. Phys. Chem.* (U.S.S.R.) 19, 615 20; *Acta Physicochim. U.R.S.S.* 20, 378 87 (1945). Since the free energy of formation of NH_3 (−5700 cal. at −50°) is about ½ of that of H_2O and 3 charges are consumed by 1 mol. of NH_3 against 2 charges for H_2O, the decompn. potential of liquid NH_3 should be 1/6 of that of H_2O, i.e., 0.08 v. In solns. of neutral salts this theoretical potential should be 1.52 v. because of the formation of alkali and acid at the electrodes. The higher exptl. values of decompn. potentials must be due to overvoltage. At the anode N_2 is liberated in usual salt solns. since the normal potential of the electrode N_2/NH_4^+ is by 2.8 v. more negative than that of I_2/I^- in liquid NH_3. J. J. Bikerman

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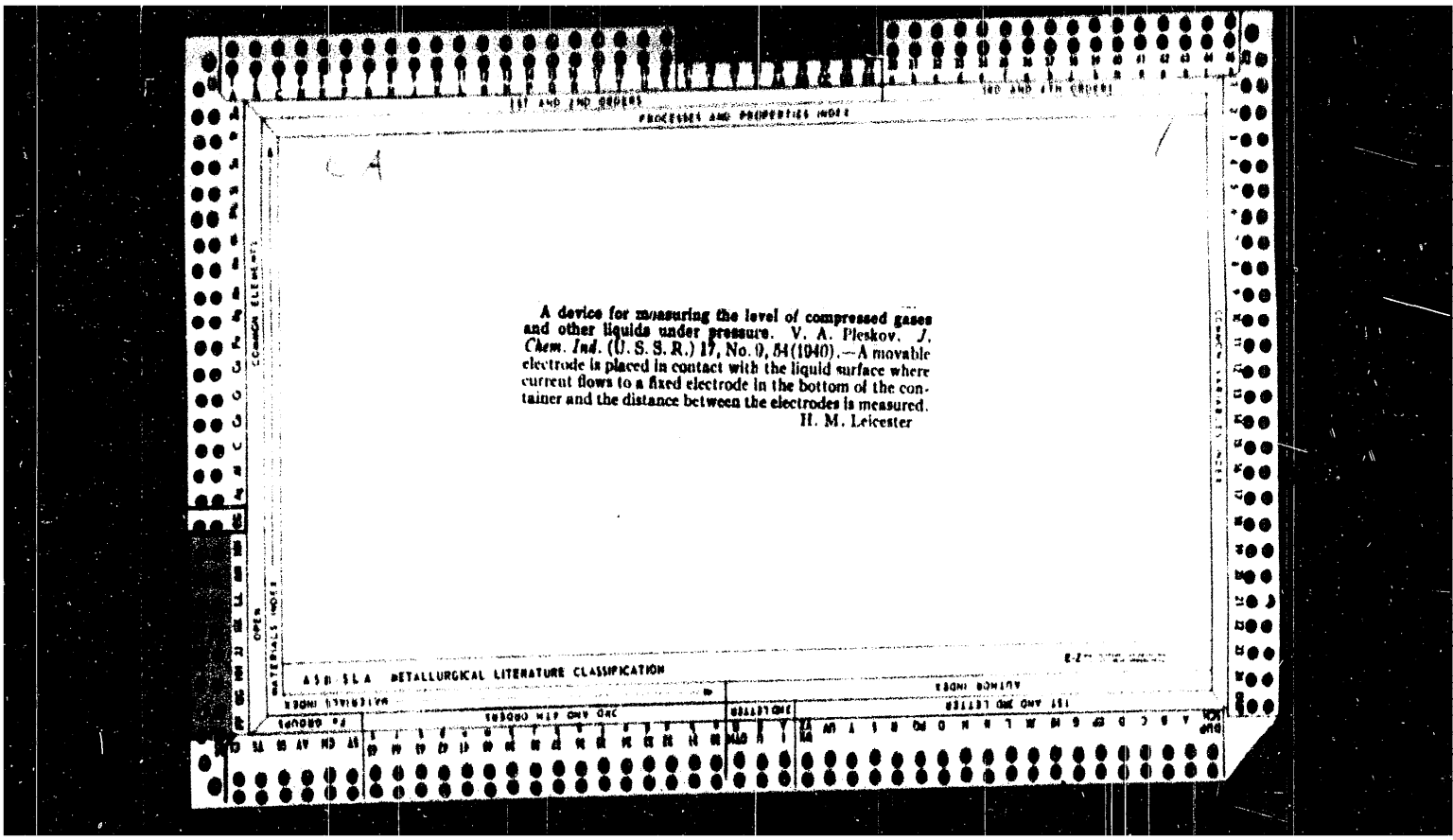
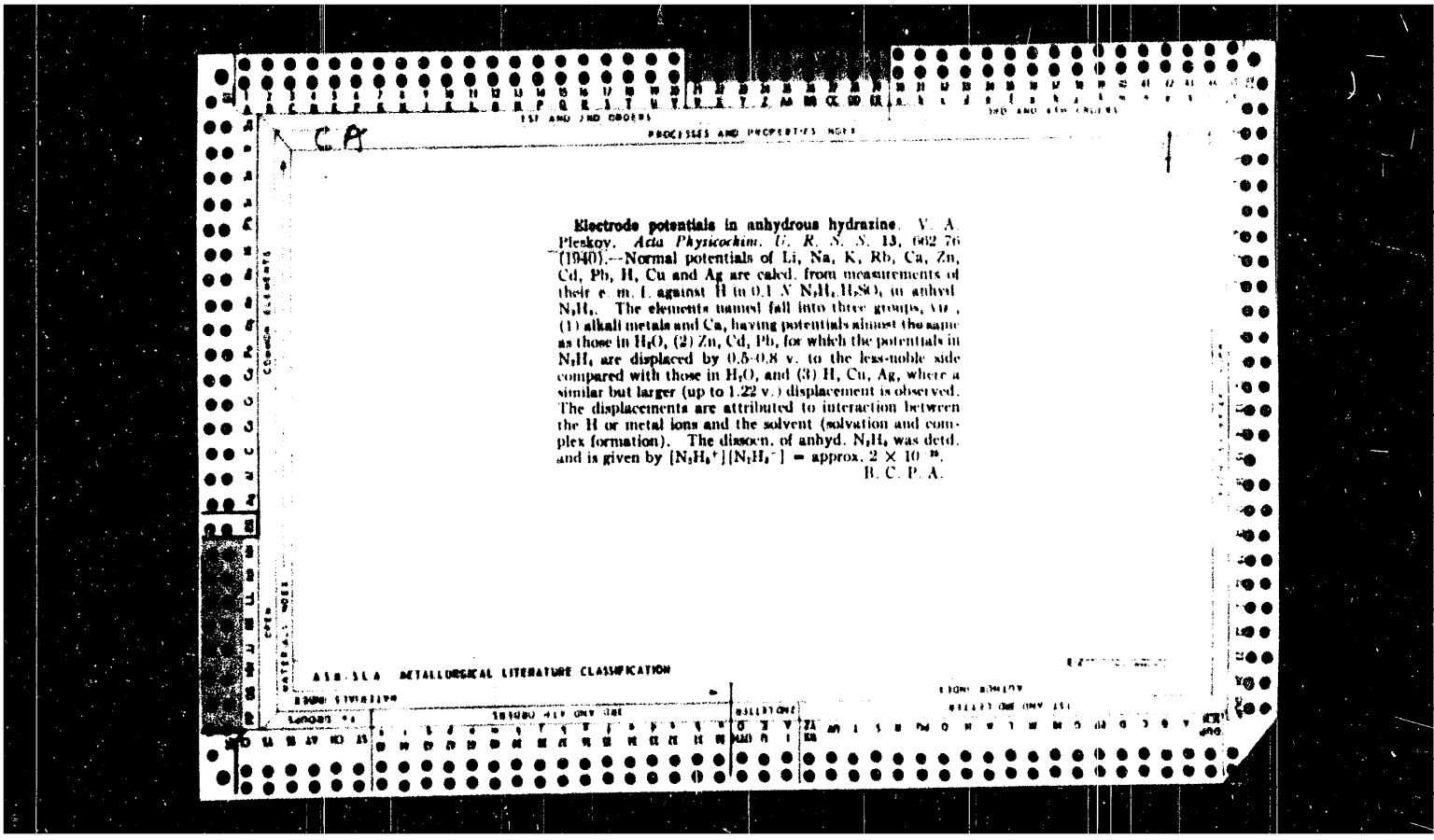


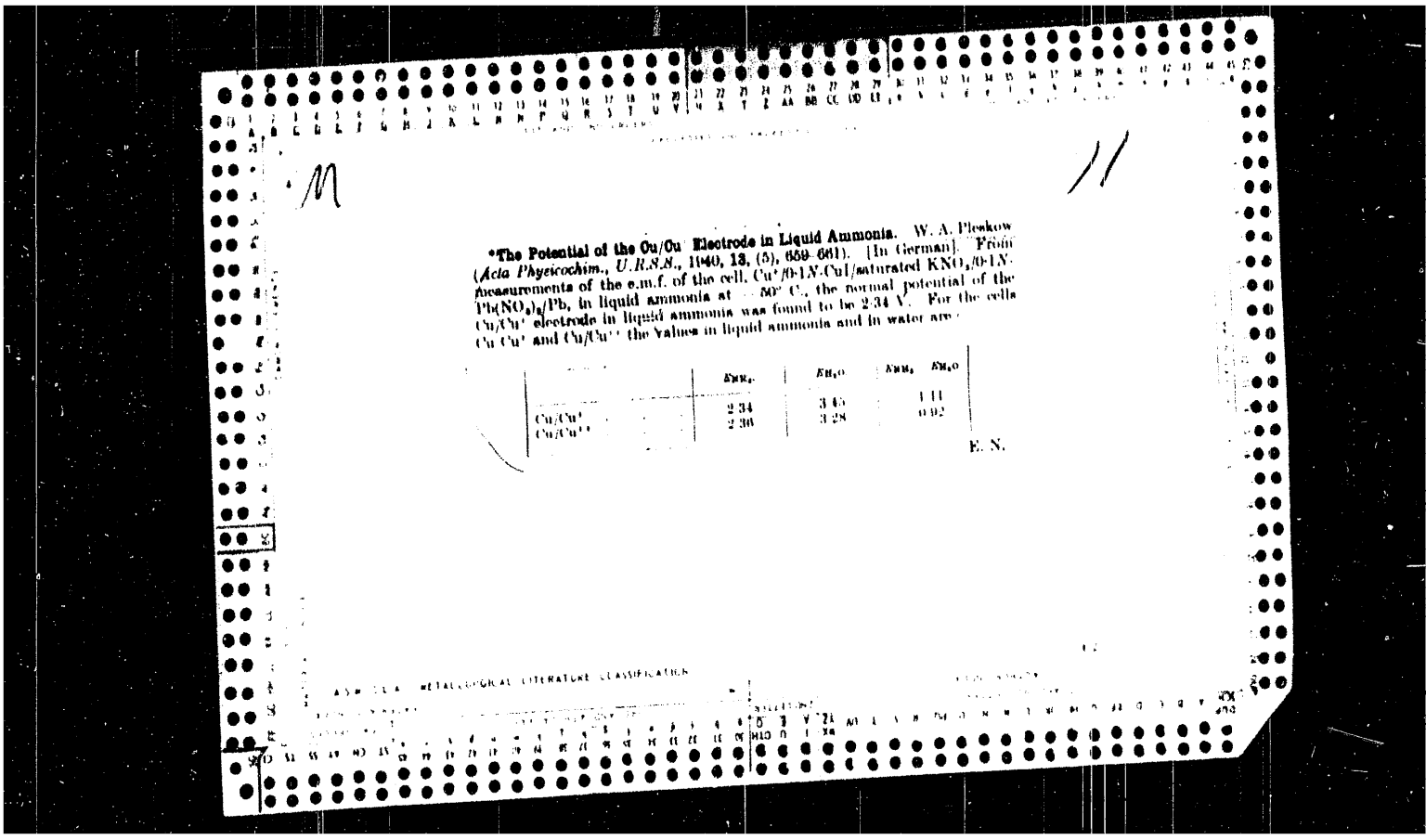
A device for measuring the level of compressed gases and other liquids under pressure. V. A. Pleskov. *J. Chem. Ind.* (U. S. S. R.) 17, No. 9, 54 (1940).—A movable electrode is placed in contact with the liquid surface where current flows to a fixed electrode in the bottom of the container and the distance between the electrodes is measured.

H. M. Leicester



Electrode potentials in anhydrous hydrazine. V. A. Pleskov. *Acta Physicochim. U. R. S. S.* 13, 602-76 (1940).--Normal potentials of Li, Na, K, Rb, Ca, Zn, Cd, Pb, H, Cu and Ag are calcd. from measurements of their e. m. f. against H in 0.1 *N* $N_2H_4.H_2SO_4$ in anhyd. N_2H_4. The elements named fall into three groups, viz., (1) alkali metals and Ca, having potentials almost the same as those in H_2O, (2) Zn, Cd, Pb, for which the potentials in N_2H_4 are displaced by 0.5-0.8 v. to the less-noble side compared with those in H_2O, and (3) H, Cu, Ag, where a similar but larger (up to 1.22 v.) displacement is observed. The displacements are attributed to interaction between the H or metal ions and the solvent (solvation and complex formation). The dissocn. of anhyd. N_2H_4 was detd. and is given by $[N_2H_6^{++}][N_2H_4^{--}] = \text{approx. } 2 \times 10^{-30}$.

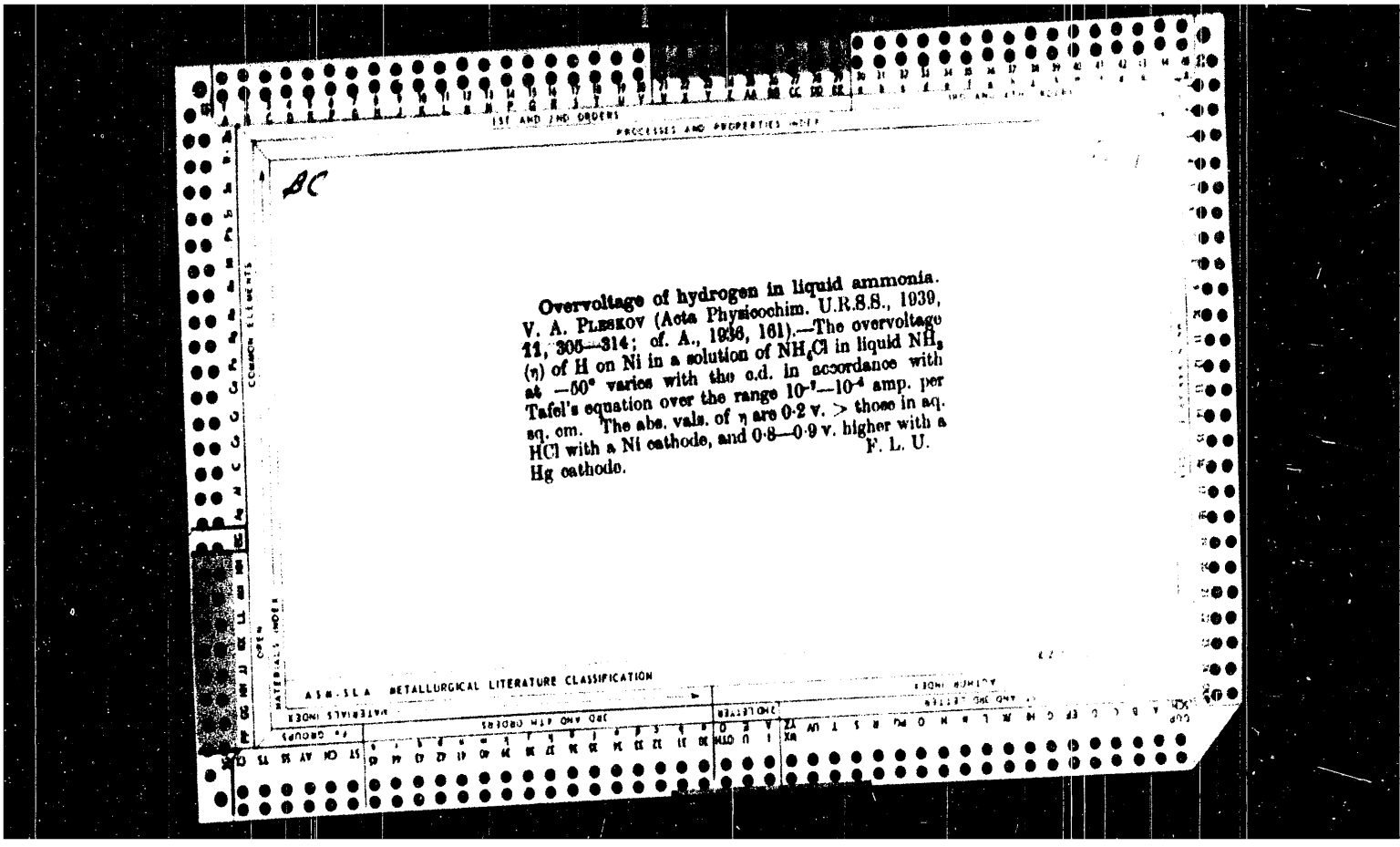
B. C. P. A.



***The Potential of the Cu/Cu^{+} Electrode in Liquid Ammonia.** W. A. Pleskow (*Acta Physicochim., U.R.S.S.*, 1940, **13**, (5), 659–661). [In German]. From measurements of the e.m.f. of the cell, Cu^{+}/0·1*N*.CuI/saturated KNO_3/0·1*N*.$Pb(NO_3)_2$/Pb, in liquid ammonia at −50° C., the normal potential of the Cu/Cu^{+} electrode in liquid ammonia was found to be 2·34 V. For the cells Cu Cu^{+} and Cu/Cu^{++} the values in liquid ammonia and in water are:

	E_{NH_3}.	E_{H_2O}	Δ_{NH_3}	Δ_{H_2O}
Cu/Cu^{+}	2·34	3·45	1·11	
Cu/Cu^{++}	2·36	3·28	0·92	

E. N.



AC

Overvoltage of hydrogen in liquid ammonia. V. A. PLESKOV (Acta Physicochim. U.R.S.S., 1939, **11**, 305—314; cf. A., 1936, 161).—The overvoltage (η) of H on Ni in a solution of NH_4Cl in liquid NH_3 at −50° varies with the c.d. in accordance with Tafel's equation over the range 10^{-3}—10^{-4} amp. per sq. cm. The abs. vals. of η are 0·2 v. > those in aq. HCl with a Ni cathode, and 0·8—0·9 v. higher with a Hg cathode. F. L. U.

1. [redacted], V. A., [illegible]

2. USSR (60)

"The Viscosity of [illegible] at 20° Centigrade," Zhur. Fiz. Khim., 13, No. 5, 1939.
Moscow, Physico-Chemical Institute [illegible],
Lab of Combustible Gases. [illegible]

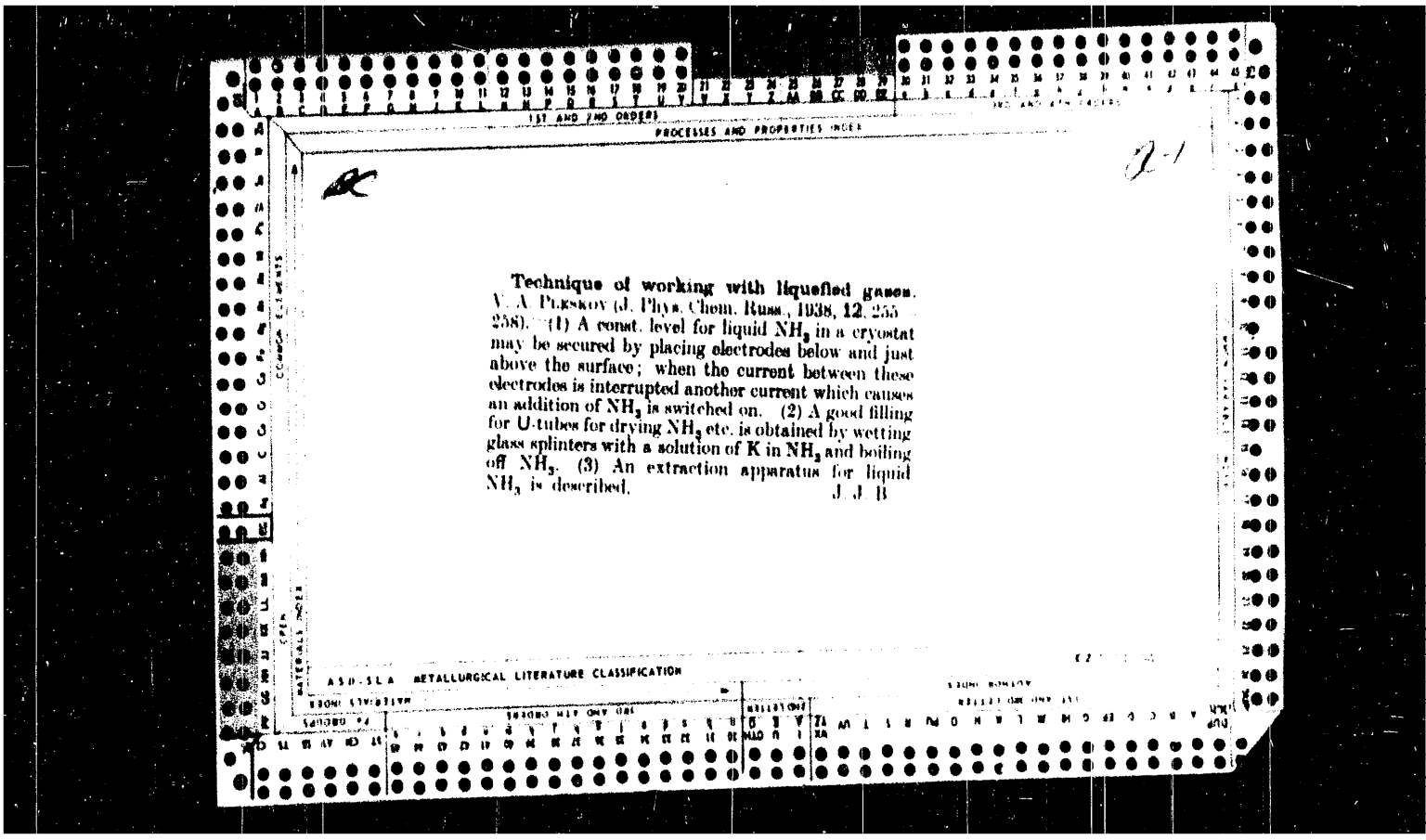
9. [redacted] Report 1-1 13, 3 Jan 53.

1. PLESKOV, V. A.

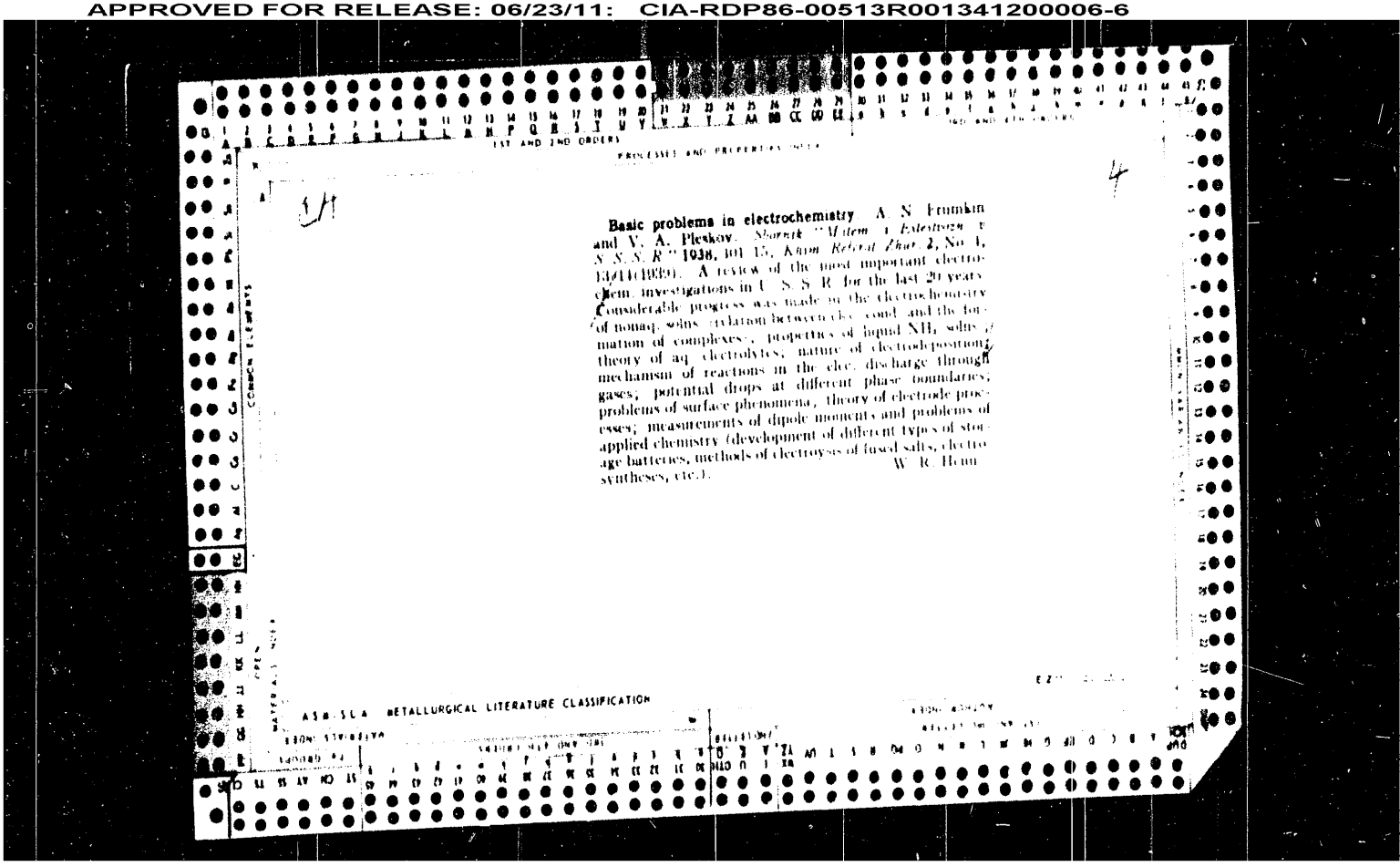
2. U.S.S.R. (600)

"The Physico-Chemical Properties of Solutions of Some Quaternary Ammonium Bases. The Overvoltage of Hydrogen on Lithium Amalgam," Zhur. Fiz. Khim., 13, No. 10, 1939. Moscow, Physico-Chemical Institute imeni Karpov, Laboratory of Colloid Chemistry. Received 3 May 1939.

9. [redacted] Report U-1111, 3 Jan. 1953.

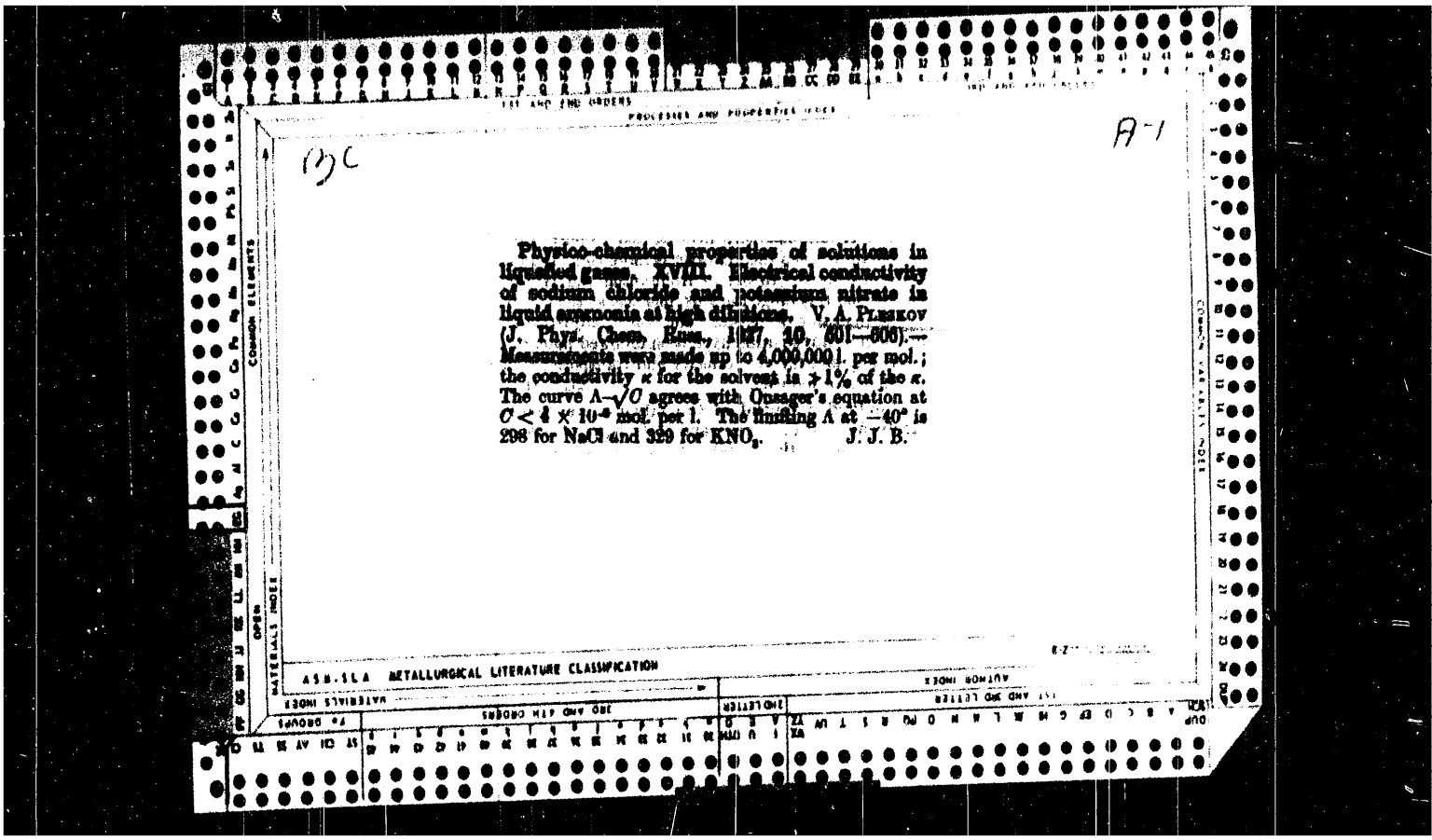


Technique of working with liquefied gases. V. A. Plotnikov (J. Phys. Chem. Russ., 1938, **12**, 255–258). (1) A const. level for liquid NH_3 in a cryostat may be secured by placing electrodes below and just above the surface; when the current between these electrodes is interrupted another current which causes an addition of NH_3 is switched on. (2) A good filling for U-tubes for drying NH_3 etc. is obtained by wetting glass splinters with a solution of K in NH_3 and boiling off NH_3. (3) An extraction apparatus for liquid NH_3 is described. J. J. B



Basic problems in electrochemistry. A. N. Frumkin and V. A. Pleskov. *Sbornik "Voprosy Elektrokhim" v S.S.S.R.* **1938**, 101 15. *Khim. Referat. Zhur.* **2**, No. 4, 13(1)(1939). A review of the most important electrochem. investigations in U. S. S. R. for the last 20 years. Considerable progress was made in the electrochemistry of nonaq. solns. (relation between elec. cond. and the formation of complexes, properties of liquid NH_3 solns., theory of aq. electrolytes, nature of electrodeposition), mechanism of reactions in the elec. discharge through gases, potential drops at different phase boundaries, problems of surface phenomena, theory of electrode processes, measurements of dipole moments and problems of applied chemistry (development of different types of storage batteries, methods of electrolysis of fused salts, electro syntheses, etc.).

W. R. Henn



(1) C

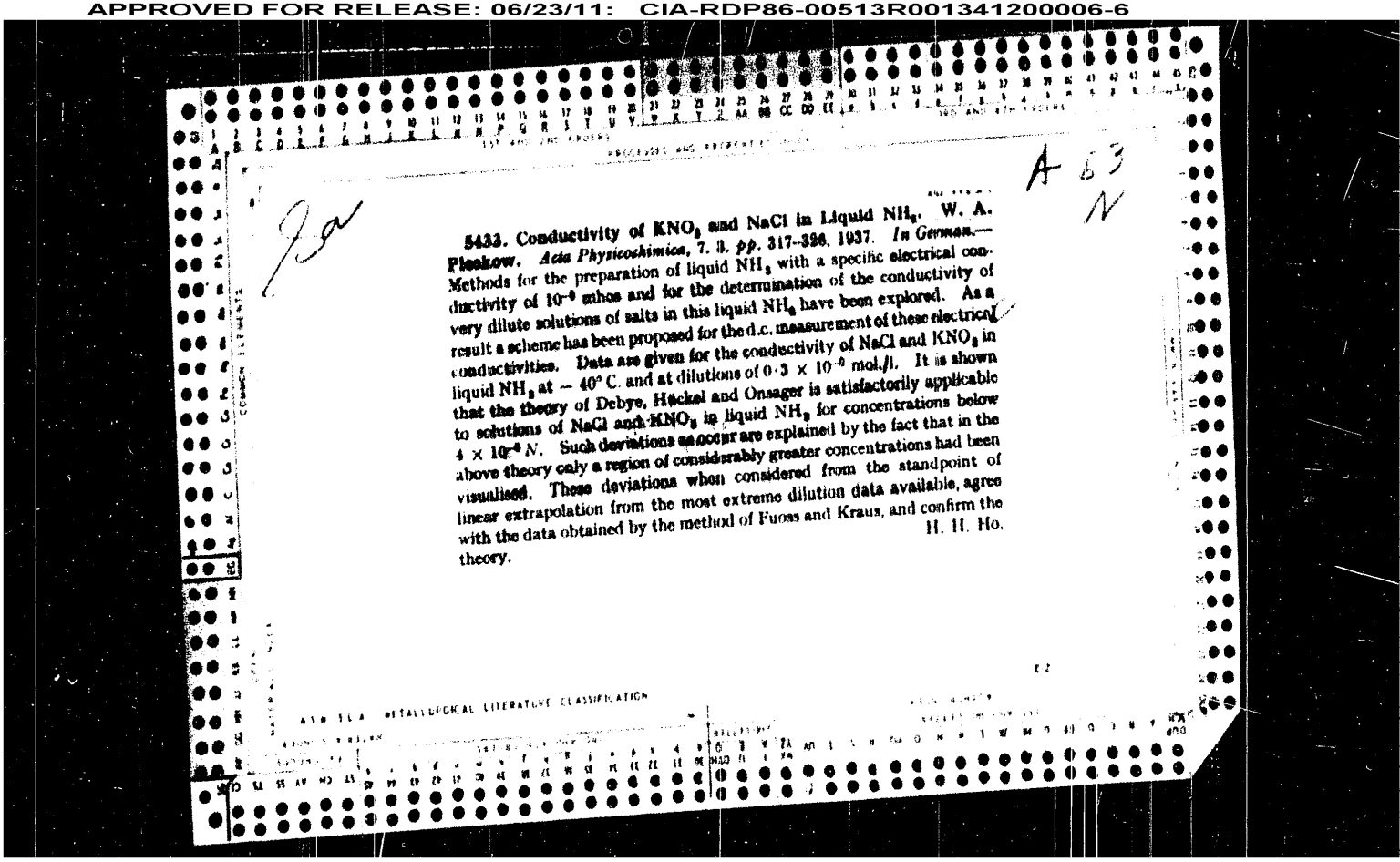
A-1

Physico-chemical properties of solutions in liquefied gases. XVIII. Electrical conductivity of sodium chloride and potassium nitrate in liquid ammonia at high dilutions. V. A. Plotnikov (J. Phys. Chem. Russ., 1927, 10, 801—806). Measurements were made up to 4,000,000 l. per mol.; the conductivity κ for the solvent is $> 1\%$ of the κ. The curve Λ–$\sqrt{C}$ agrees with Onsager's equation at $C < 4 \times 10^{-4}$ mol. per l. The limiting Λ at $-40°$ is 298 for NaCl and 329 for KNO_3. J. J. B.

Physicochemical properties of solutions in condensed gases. XVII. Electrode potentials of lithium, rubidium and calcium in liquid ammonia. V. A. Plotnikov. *Phys. Chem.* (U. S. S. R.) 9, 12-18 (1937); cf. *C. A.* 31, 1280⁸. The normal electrode potentials of metals in liquid NH_3 at −50°, as based upon measurements made on the amalgams, are Li −2.90; Na −2.50; K −2.73; Rb −2.68; Ca −2.30; and the values for E_{298} E_{308} are, resp., +0.03, +0.12, +0.19, +0.25, +0.38.

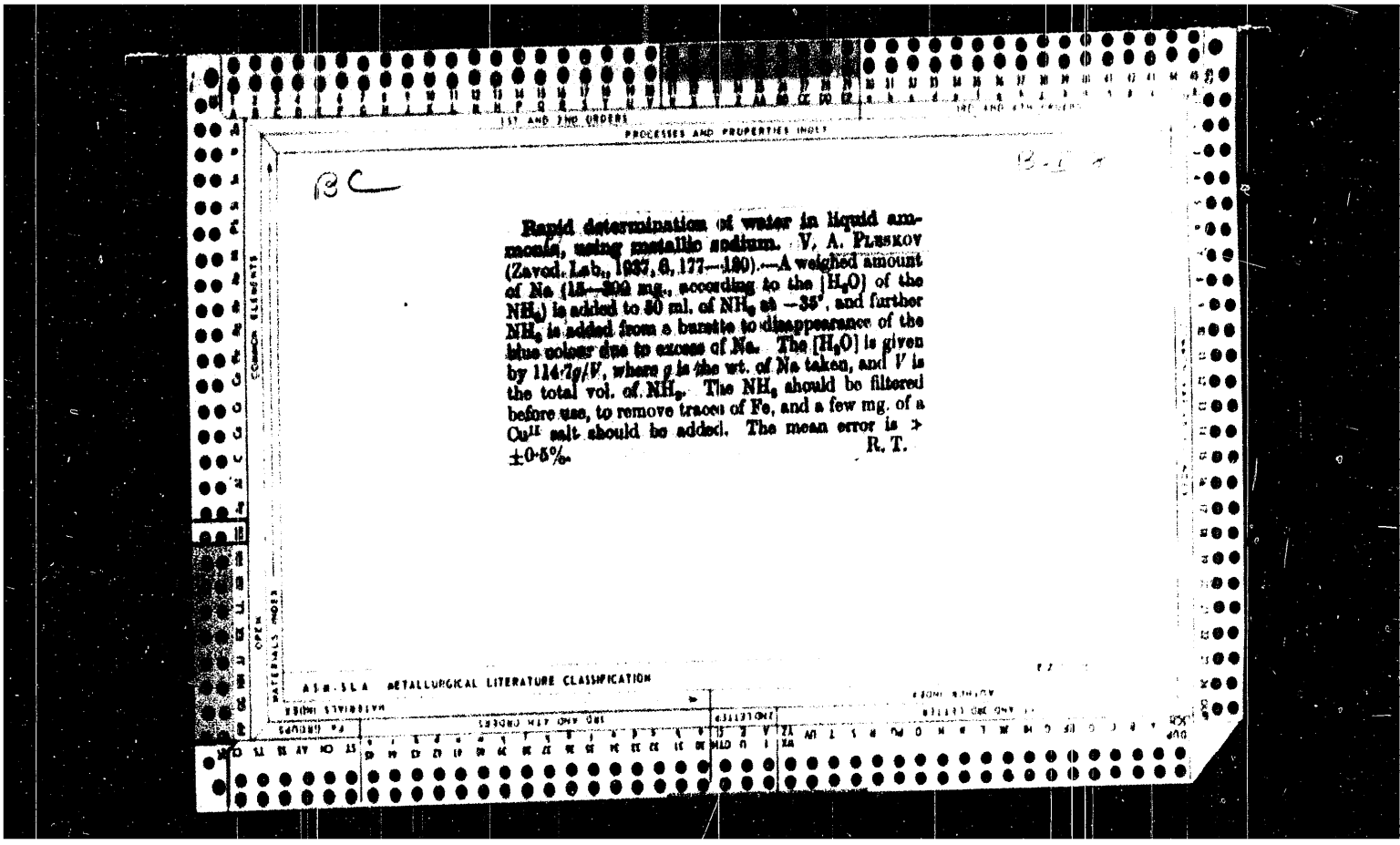
F. H. Rathmann

A.S.M. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION



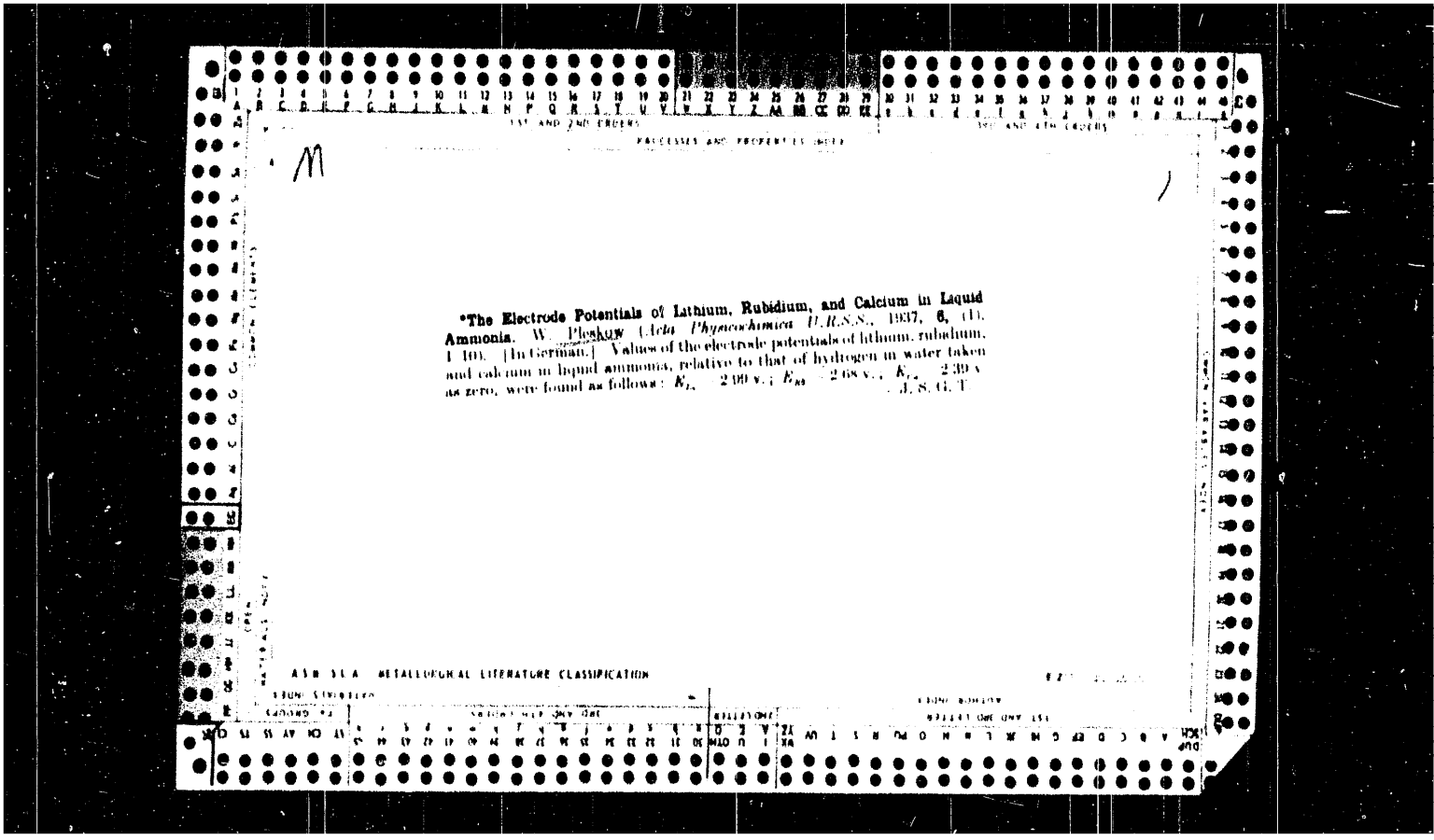
5433. Conductivity of KNO_3 and NaCl in Liquid NH_3. W. A. Plotnikow. *Acta Physicochimica*, 7. 3. *pp.* 317–336. 1937. *In German.*—Methods for the preparation of liquid NH_3 with a specific electrical conductivity of 10^{-6} mhos and for the determination of the conductivity of very dilute solutions of salts in this liquid NH_3 have been explored. As a result a scheme has been proposed for the d.c. measurement of these electrical conductivities. Data are given for the conductivity of NaCl and KNO_3 in liquid NH_3 at $-40°$ C. and at dilutions of $0{\cdot}3 \times 10^{-6}$ mol./l. It is shown that the theory of Debye, Hückel and Onsager is satisfactorily applicable to solutions of NaCl and KNO_3 in liquid NH_3 for concentrations below 4×10^{-4} *N*. Such deviations as occur are explained by the fact that in the above theory only a region of considerably greater concentrations had been visualised. These deviations when considered from the standpoint of linear extrapolation from the most extreme dilution data available, agree with the data obtained by the method of Fuoss and Kraus, and confirm the theory.

H. H. Ho.

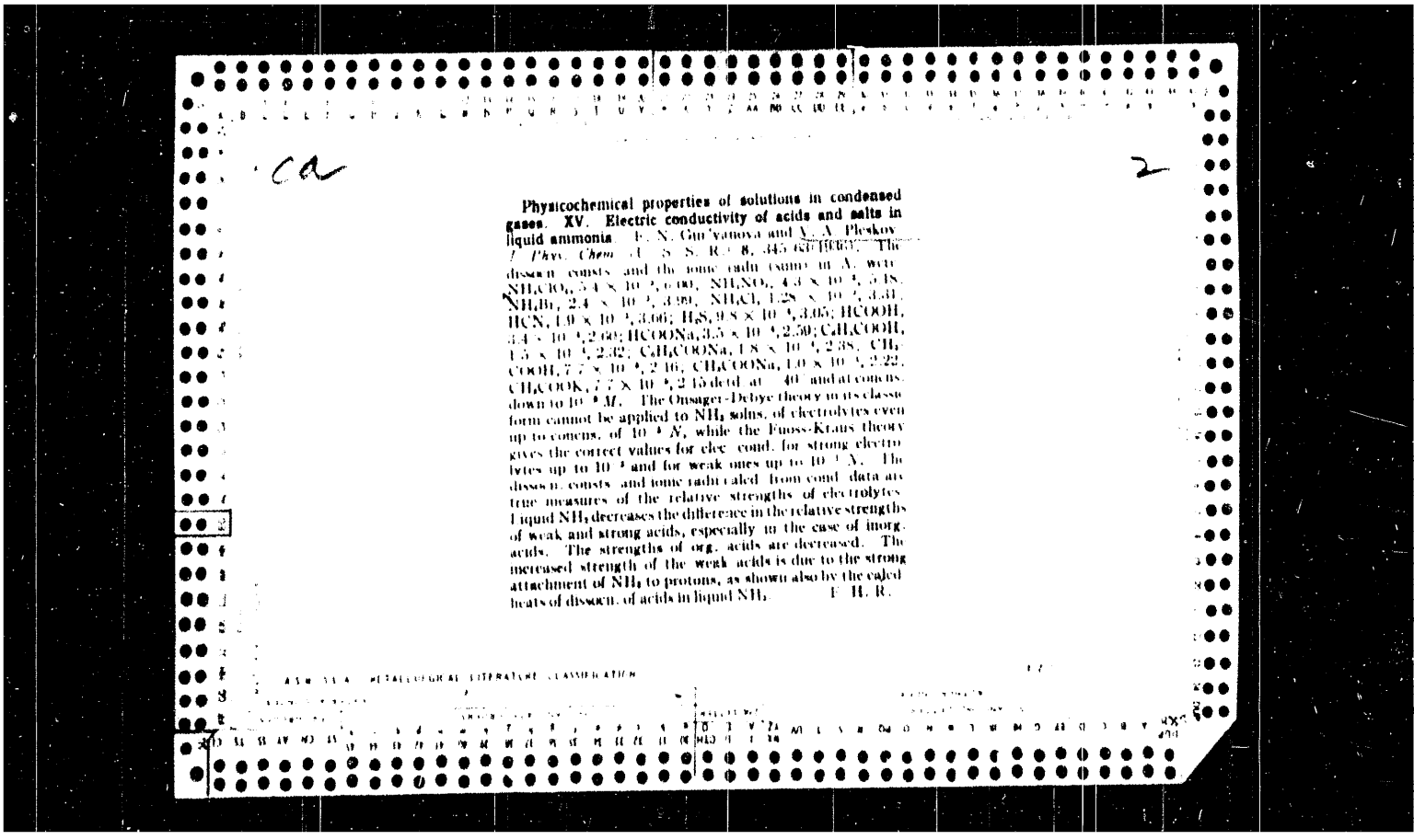


Rapid determination of water in liquid ammonia, using metallic sodium. V. A. PLESKOV (Zavod. Lab., 1937, 6, 177—180).—A weighed amount of Na (15—300 mg., according to the $[H_2O]$ of the NH_3) is added to 50 ml. of NH_3 at −35°, and further NH_3 is added from a burette to disappearance of the blue colour due to excess of Na. The $[H_2O]$ is given by $114{\cdot}7g/V$, where g is the wt. of Na taken, and V is the total vol. of NH_3. The NH_3 should be filtered before use, to remove traces of Fe, and a few mg. of a Cu^{II} salt should be added. The mean error is > ±0·5%.

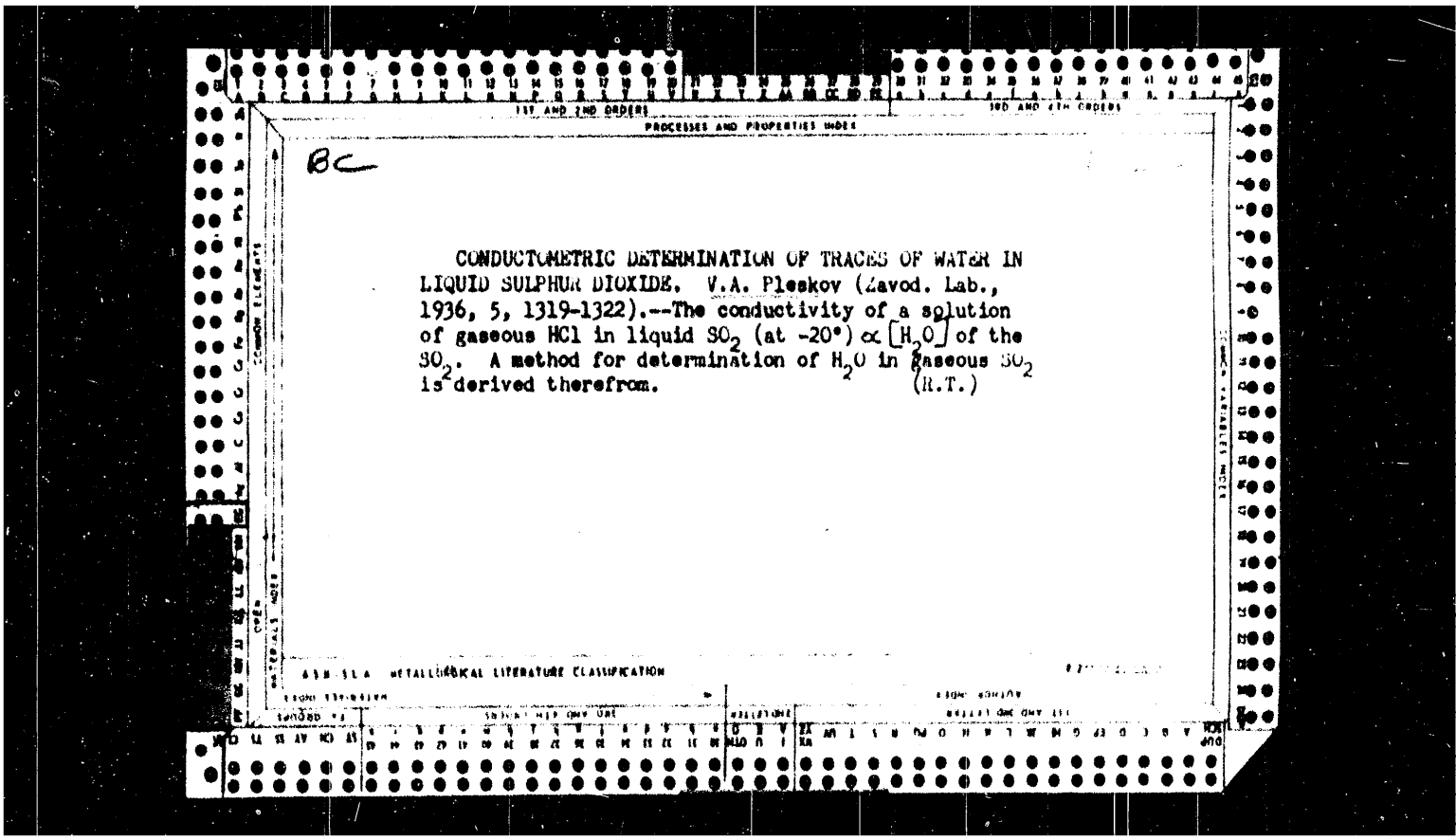
R. T.



***The Electrode Potentials of Lithium, Rubidium, and Calcium in Liquid Ammonia.** W. Pleskow (*Acta Physicochimica U.R.S.S.*, 1937, **6**, (1), 1–10. [In German.] Values of the electrode potentials of lithium, rubidium, and calcium in liquid ammonia, relative to that of hydrogen in water taken as zero, were found as follows: K_{Li} 2.00 v.; K_{Rb} 2.68 v.; K_{Ca} 2.39 v. J.S.G.T.



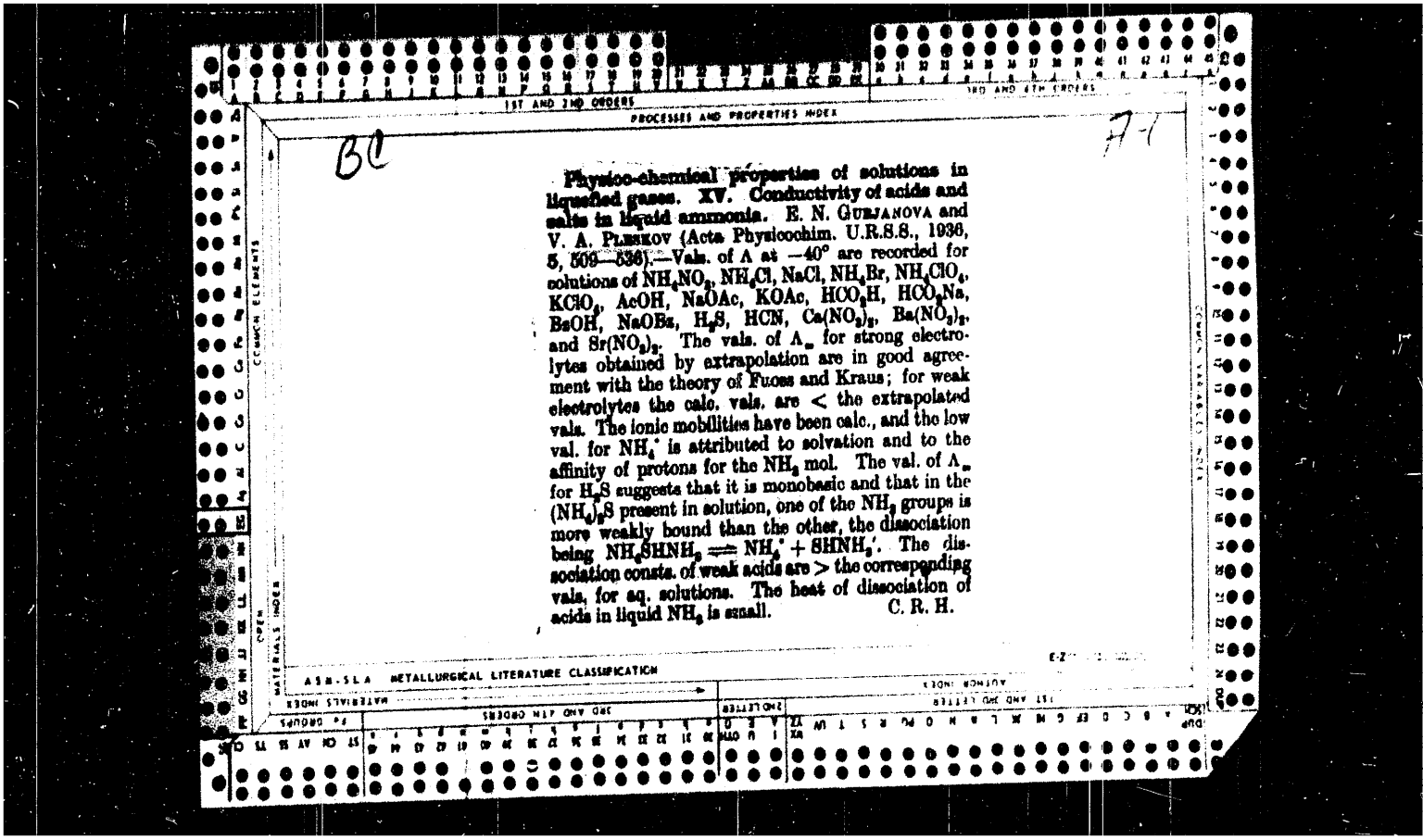
Physicochemical properties of solutions in condensed gases. XV. Electric conductivity of acids and salts in liquid ammonia. F. N. Gin'yatova and Y. A. Pleskov. *J. Phys. Chem. (U.S.S.R.)* 8, 345-67(1936). The dissocn. consts. and the ionic radii (sums in Å. were NH_4ClO_4, 5.4×10^{-2}, 3.60; NH_4NO_3, 4.3×10^{-2}, 3.48; NH_4Br, 2.4×10^{-2}, 3.30; NH_4Cl, 1.28×10^{-2}, 3.31; HCN, 1.9×10^{-3}, 3.66; H_2S, 9.8×10^{-8}, 3.05; HCOOH, 3.4×10^{-4}, 2.69; HCOONa, 3.5×10^{-4}, 2.50; C_6H_5COOH, 1.5×10^{-4}, 2.32; C_6H_5COONa, 1.8×10^{-4}, 2.38; CH_3COOH, 7.7×10^{-6}, 2.16; CH_3COONa, 1.0×10^{-4}, 2.22; CH_3COOK, 7.7×10^{-6}, 2.15 detd. at −40° and at concns. down to 10^{-6} *M*. The Onsager-Debye theory in its classic form cannot be applied to NH_3 solns. of electrolytes even up to concns. of 10^{-6} *N*, while the Fuoss-Kraus theory gives the correct values for elec. cond. for strong electrolytes up to 10^{-3} and for weak ones up to 10^{-4} *N*. The dissocn. consts. and ionic radii calcd. from cond. data are true measures of the relative strengths of electrolytes. Liquid NH_3 decreases the difference in the relative strengths of weak and strong acids, especially in the case of inorg. acids. The strengths of org. acids are decreased. The increased strength of the weak acids is due to the strong attachment of NH_3 to protons, as shown also by the calcd. heats of dissocn. of acids in liquid NH_3. F. H. R.



PROCESSES AND PROPERTIES INDEX

BC

CONDUCTOMETRIC DETERMINATION OF TRACES OF WATER IN LIQUID SULPHUR DIOXIDE. V.A. Pleskov (Zavod. Lab., 1936, 5, 1319-1322).--The conductivity of a solution of gaseous HCl in liquid SO_2 (at -20°) $\propto [H_2O]$ of the SO_2. A method for determination of H_2O in gaseous SO_2 is derived therefrom. (R.T.)



PROCESSES AND PROPERTIES INDEX

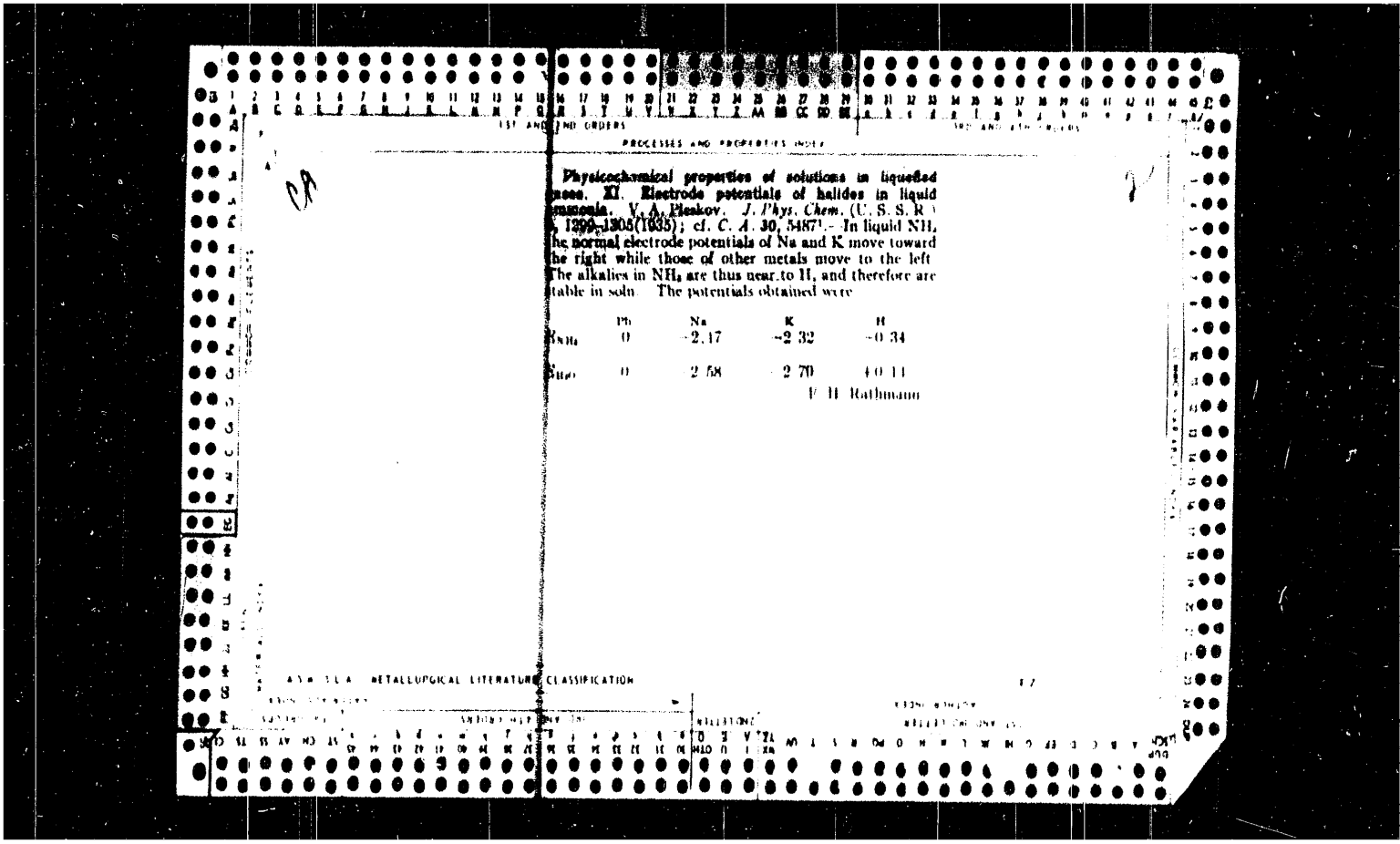
B2

Physico-chemical properties of solutions in liquefied gases. XV. Conductivity of acids and salts in liquid ammonia. E. N. Gurjanova and V. A. Plesskov (Acta Physicochim. U.R.S.S., 1936, 5, 509—536).—Vals. of Λ at −40° are recorded for solutions of NH_4NO_3, NH_4Cl, NaCl, NH_4Br, NH_4ClO_4, $KClO_4$, AcOH, NaOAc, KOAc, HCO_2H, HCO_2Na, BaOH, NaOBz, H_2S, HCN, $Ca(NO_3)_2$, $Ba(NO_3)_2$, and $Sr(NO_3)_2$. The vals. of Λ_∞ for strong electrolytes obtained by extrapolation are in good agreement with the theory of Fuoss and Kraus; for weak electrolytes the calc. vals. are < the extrapolated vals. The ionic mobilities have been calc., and the low val. for NH_4^+ is attributed to solvation and to the affinity of protons for the NH_3 mol. The val. of Λ_∞ for H_2S suggests that it is monobasic and that in the $(NH_4)_2S$ present in solution, one of the NH_3 groups is more weakly bound than the other, the dissociation being $NH_4SHNH_3 \rightleftharpoons NH_4^+ + SHNH_3'$. The dissociation consts. of weak acids are > the corresponding vals. for aq. solutions. The heat of dissociation of acids in liquid NH_3 is small. C. R. H.

CA

10

The purification of crude anthracene by liquid ammonia. A. M. Monoszon, V. A. Pleskov and A. I. Shatenshtein. *J. Chem. Ind.* (Moscow) **12**, 389-90(1935).—At 40°, 100 g. of liquid NH_3 dissolves 0.8 g. of anthracene, 3.0 g. of phenanthrene and 7.0 g. of carbazole. At 20° the respective solubilities are 0.5, 5.5 and 12.5 g. Washing 45% pure anthracene once with NH_3 raises the purity of the latter to 83%. Further washing improves the purity only slightly. One hundred g. of liquid SO_2 dissolves 1.5 g. of anthracene and 2.6 g. of carbazole at 20°. This solvent is not satisfactory for purification. H. M. L.



PROCESSES AND PROPERTIES INDEX

Physicochemical properties of solutions in liquefied gases. XI. Electrode potentials of halides in liquid ammonia. V. A. Pleskov. *J. Phys. Chem.* (U. S. S. R.), 6, 1299-1305(1935); cf. *C. A.* 30, 5487[1].—In liquid NH_3 the normal electrode potentials of Na and K move toward the right while those of other metals move to the left. The alkalies in NH_3 are thus near to H, and therefore are stable in soln. The potentials obtained were:

	Pb	Na	K	H
π_{NH_3}	0	−2.17	−2.32	−0.34
π_{H_2O}	0	−2.58	−2.70	+0.11

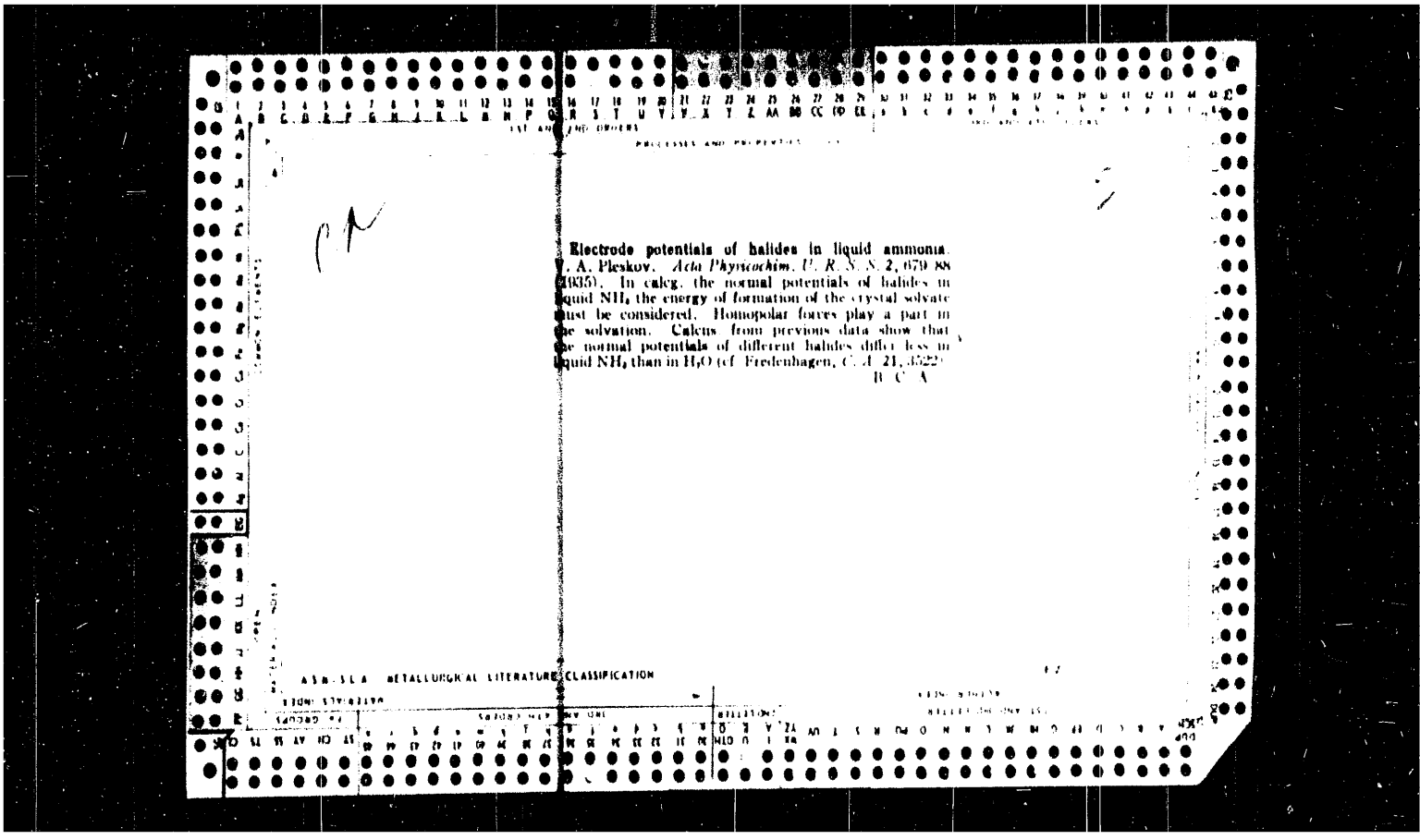
F. H. Rathmann

A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION

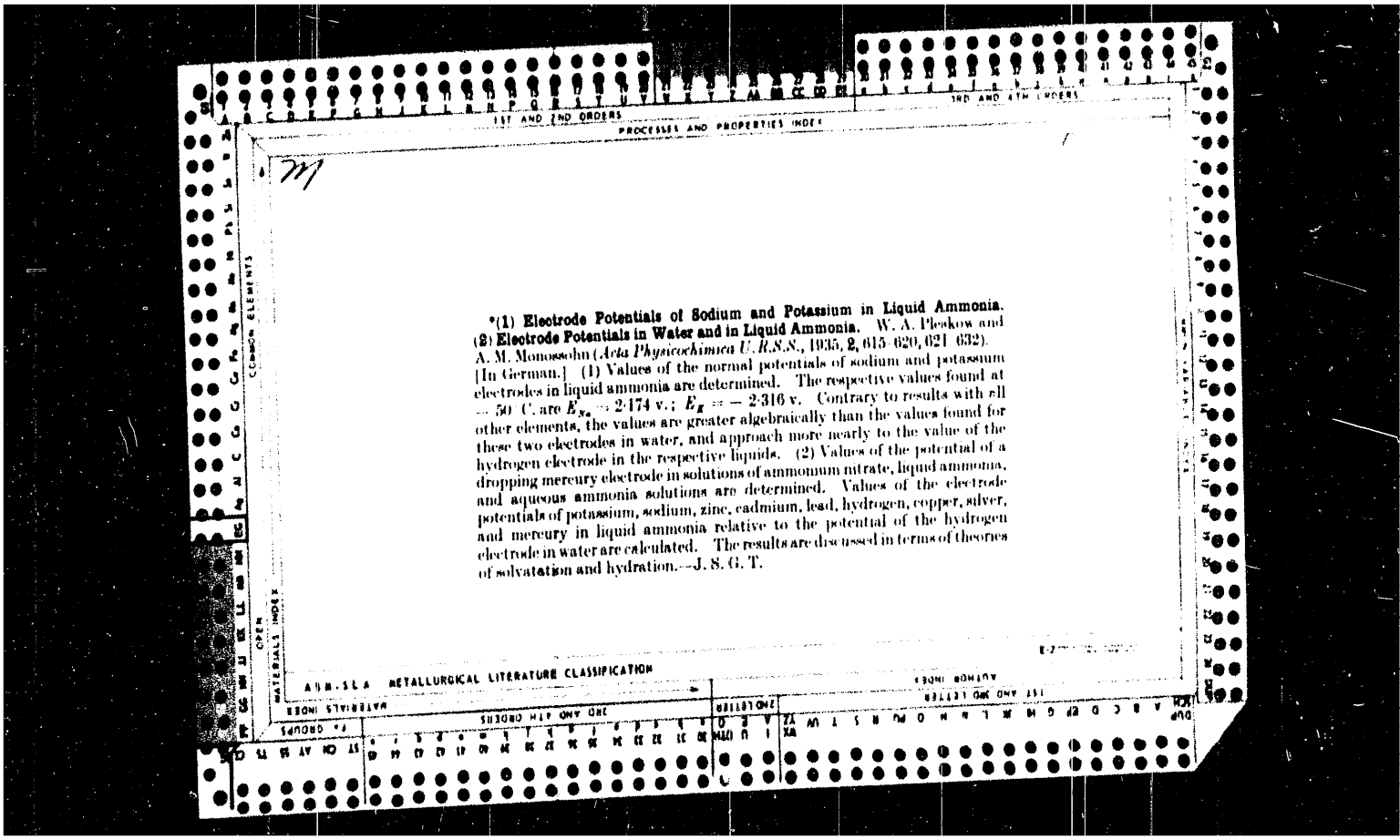
PLESKOV, V. A.

Activity of ammonium ions in liquid ammonia solution. V. A. Pleskov and [illegible]. *Phys. Chem.* (U. S. S. R.) 6, 543 [illegible](1935). The activities of NH_4Cl and NH_4NO_3 solns. in liquid NH_3 were detd. by [illegible] H electrode at $-50°$ for solns. from [illegible] to 0.0001 N. The activity coeffs. differ considerably from those calcd. by the Debye and Hückel method, as well as from those detd. by Franklin (*C. A.* 4, [illegible]) by a [illegible] method. For NH_4NO_3 some values of activity f for concn. C were: 0.953 at 0.0001, 0.824 at 0.001, 0.466 at 0.01, 0.216 at 0.1 and 0.104 at 1.0 N as detd. in the cell Pt, H_2 NH_4NO_3 concn. C KNO_3 satd. NH_4NO_3 0.1 N Pt, H_2. Even on correcting the Debye Hückel equation for partial dissocn. the agreement of exptl. and calcd. values was satisfactory only over the range 0.002 to 0.2 N, on using as the dissocn. const. $K = 2.4 \times 10^{-3}$, and the av. ionic radius $a = 5.37$ A. For NH_4Cl some values for f at C were: 0.423 at 0.005, 0.188 at 0.05, 0.070 at 0.5 N as detd. in the cell Pt, H_2 NH_4Cl concn. C KNO_3 satd. NH_4Cl 0.1 N Pt, H_2. The dissocn. const. for liquid NH_3 at $-50°$, K for $2NH_3 \rightleftharpoons NH_4^+ + NH_2^-$, is $C_{NH_4}C_{NH_2} = 1.9 \times 10^{-33}$.

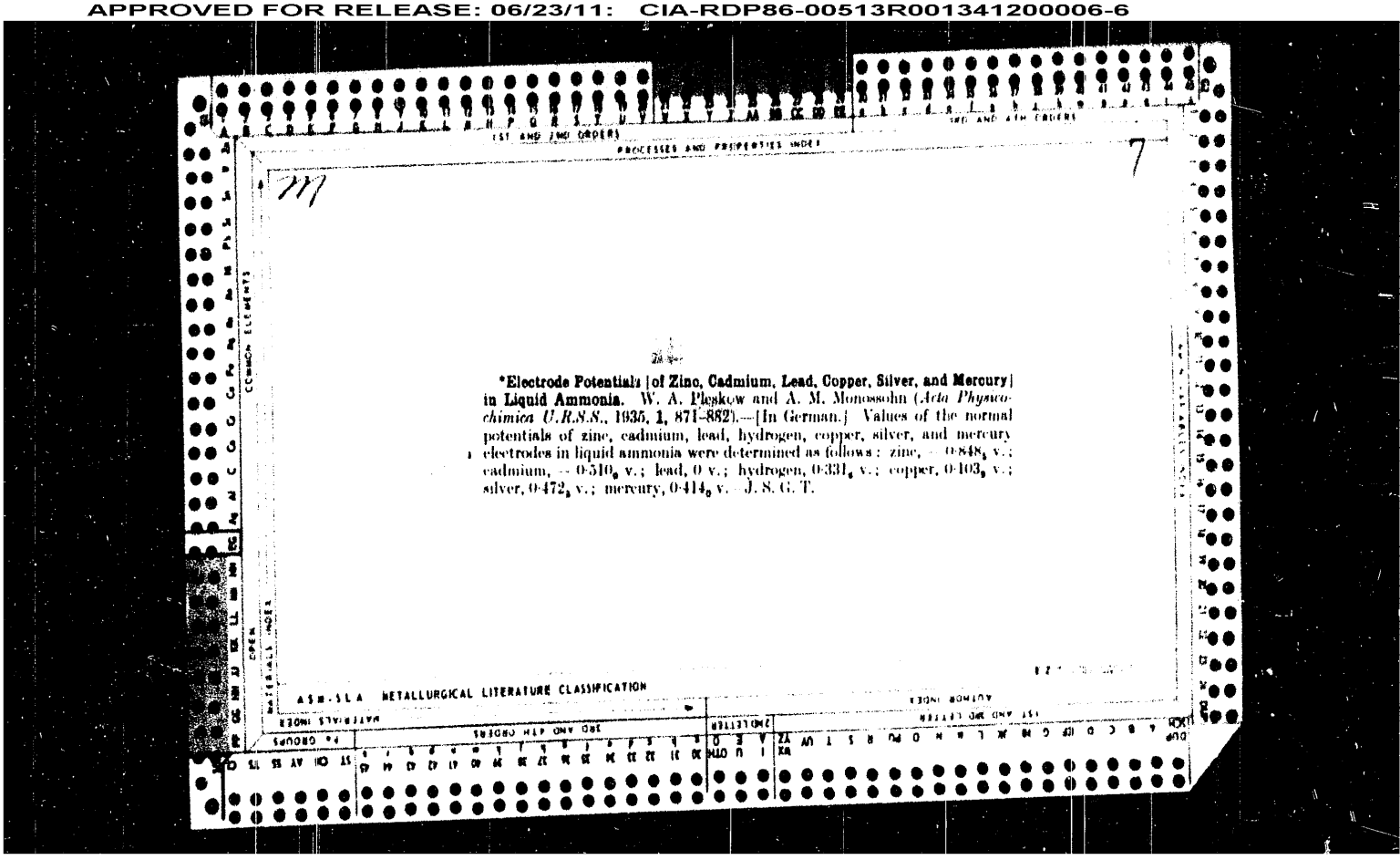
F. H. Rathmann



Electrode potentials of halides in liquid ammonia. V. A. Pleskov. *Acta Physicochim. U. R. S. S.* 2, 679-88 (1935). In calcg. the normal potentials of halides in liquid NH_3, the energy of formation of the crystal solvate must be considered. Homopolar forces play a part in the solvation. Calcns. from previous data show that the normal potentials of different halides differ less in liquid NH_3 than in H_2O (cf. Fredenhagen, C. A. 21, 3522). B. C. A.



***(1) Electrode Potentials of Sodium and Potassium in Liquid Ammonia. (2) Electrode Potentials in Water and in Liquid Ammonia.** W. A. Pleskow and A. M. Monossohn (*Acta PhysicoChimica U.R.S.S.*, 1935, **2**, 615–620, 621–632). [In German.] (1) Values of the normal potentials of sodium and potassium electrodes in liquid ammonia are determined. The respective values found at −50° C. are $E_{Na} = 2{\cdot}174$ v.; $E_K = -2{\cdot}316$ v. Contrary to results with all other elements, the values are greater algebraically than the values found for these two electrodes in water, and approach more nearly to the value of the hydrogen electrode in the respective liquids. (2) Values of the potential of a dropping mercury electrode in solutions of ammonium nitrate, liquid ammonia, and aqueous ammonia solutions are determined. Values of the electrode potentials of potassium, sodium, zinc, cadmium, lead, hydrogen, copper, silver, and mercury in liquid ammonia relative to the potential of the hydrogen electrode in water are calculated. The results are discussed in terms of theories of solvatation and hydration.—J. S. G. T.



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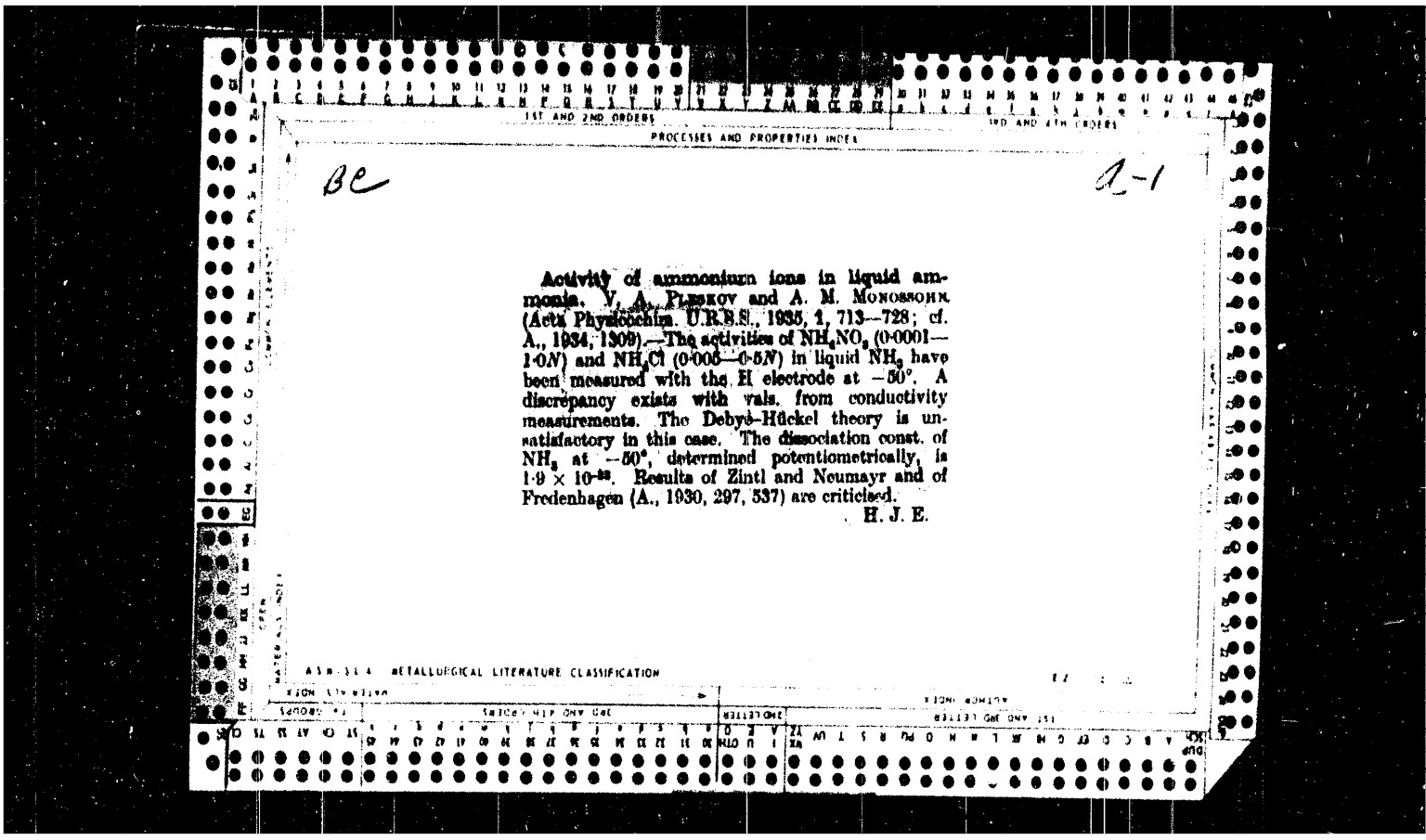
***Electrode Potentials [of Zinc, Cadmium, Lead, Copper, Silver, and Mercury] in Liquid Ammonia.** W. A. Pleskow and A. M. Monossohn (*Acta Physicochimica U.R.S.S.*, 1935, **1**, 871–882).—[In German.] Values of the normal potentials of zinc, cadmium, lead, hydrogen, copper, silver, and mercury electrodes in liquid ammonia were determined as follows: zinc, $-0{\cdot}848_5$ v.; cadmium, $-0{\cdot}510_0$ v.; lead, 0 v.; hydrogen, $0{\cdot}331_4$ v.; copper, $0{\cdot}103_0$ v.; silver, $0{\cdot}472_3$ v.; mercury, $0{\cdot}414_0$ v.—J. S. G. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

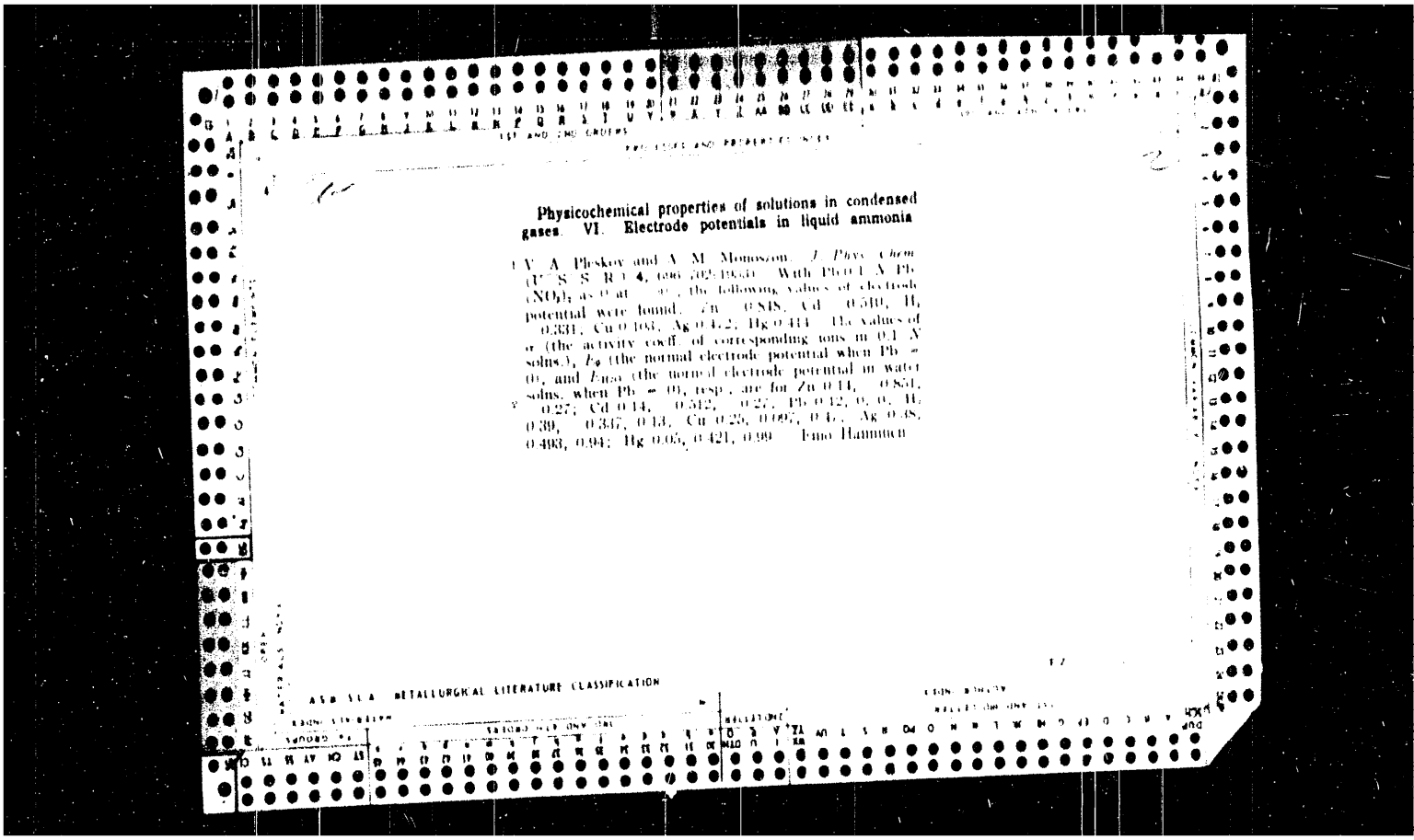
Be

A-1

Activity of ammonium ions in liquid ammonia. V. A. Plotnikov and A. M. Monossohn. (Acta Physicochim. U.R.S.S., 1935, 1, 713—728; cf. A., 1934, 1309).—The activities of NH_4NO_3 (0·0001—1·0*N*) and NH_4Cl (0·005—0·5*N*) in liquid NH_3 have been measured with the H electrode at −50°. A discrepancy exists with vals. from conductivity measurements. The Debyè-Hückel theory is unsatisfactory in this case. The dissociation const. of NH_3 at −50°, determined potentiometrically, is $1·9 \times 10^{-28}$. Results of Zintl and Neumayr and of Fredenhagen (A., 1930, 297, 537) are criticised.

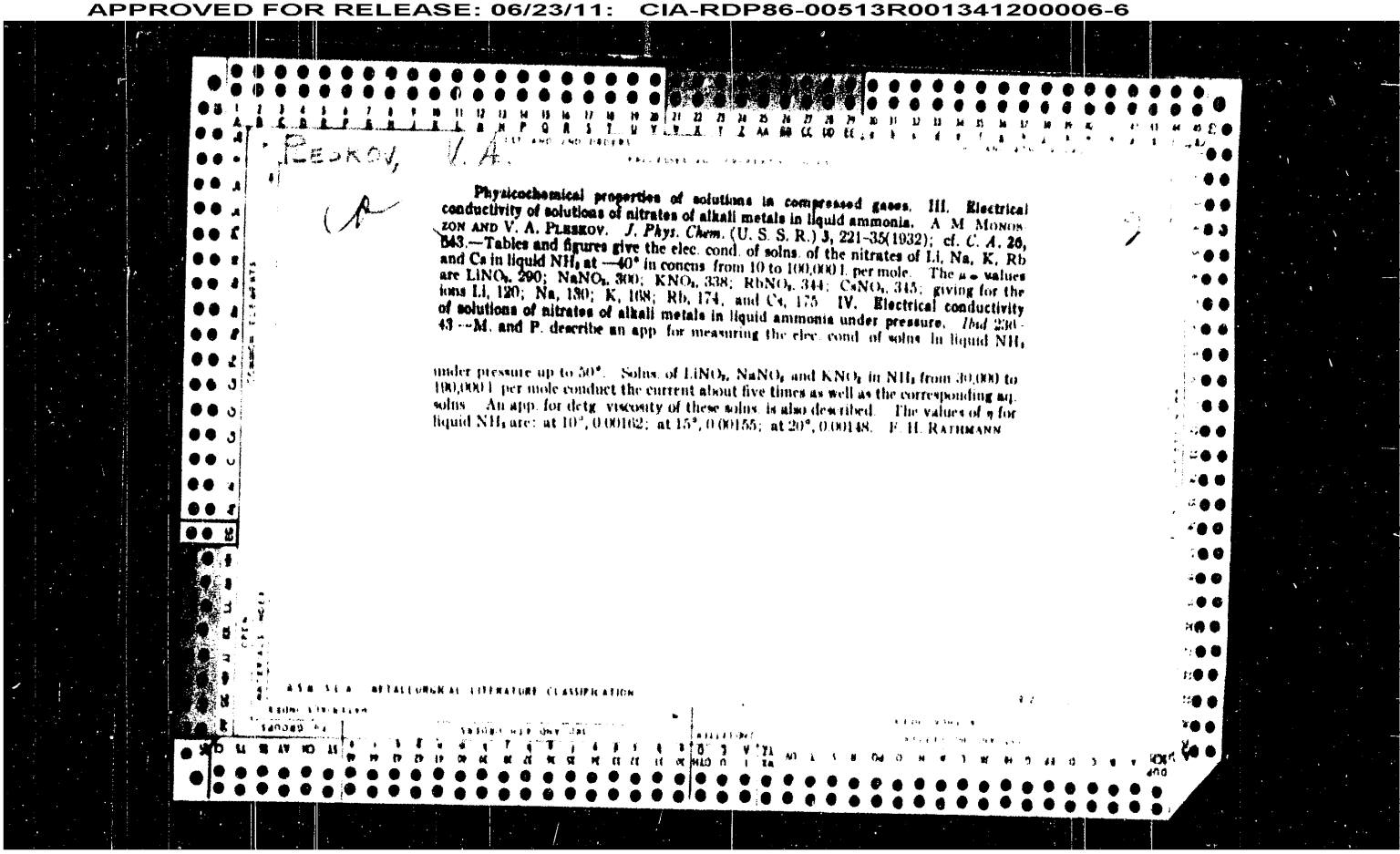
H. J. E.

A.S.M.-S.T.I. METALLURGICAL LITERATURE CLASSIFICATION



Physicochemical properties of solutions in condensed gases. VI. Electrode potentials in liquid ammonia

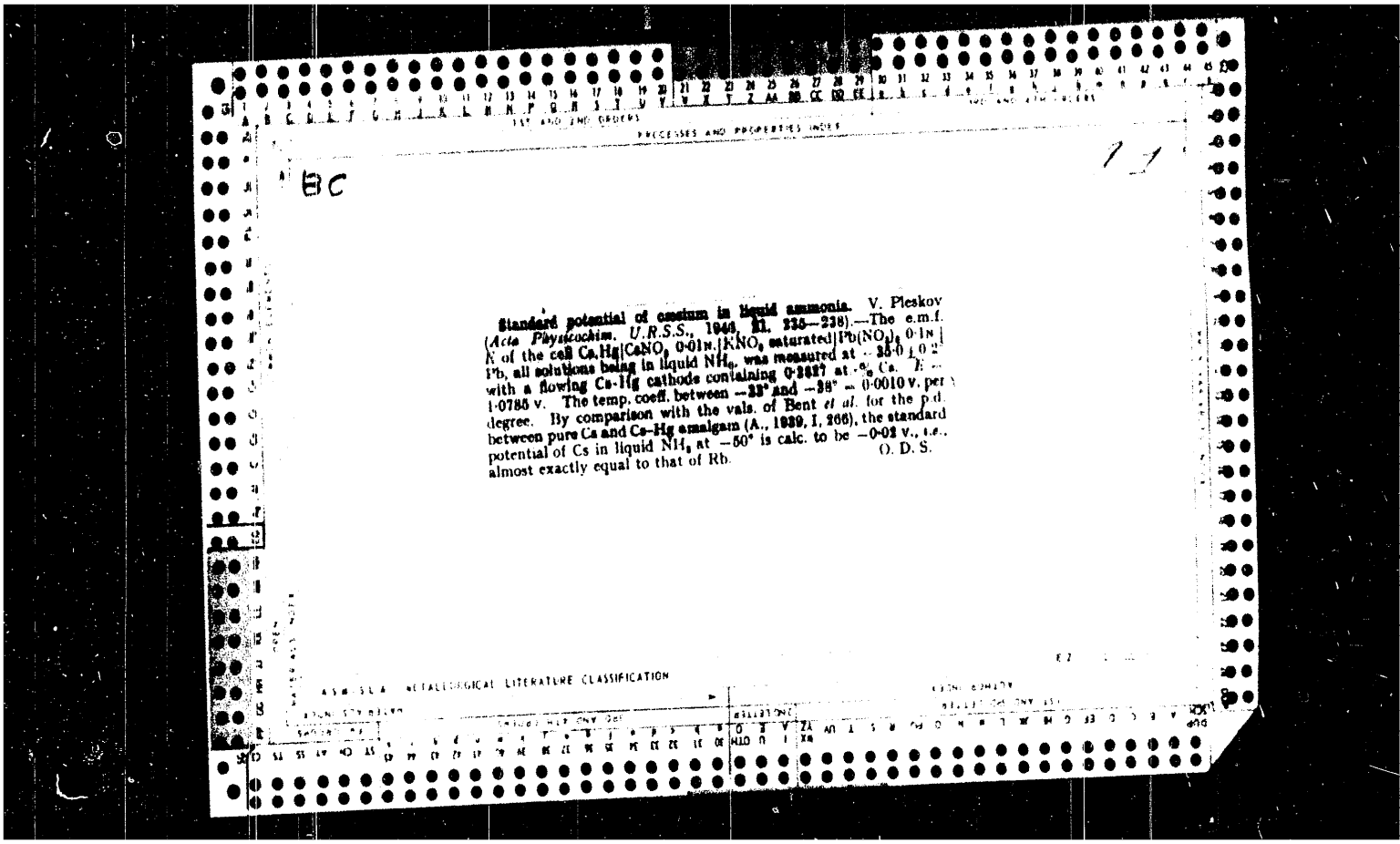
[illegible] A. Pleskov and A. M. Monoszon. *J. Phys. Chem. (U.S.S.R.)* **4**, 686-702 (1933). With Pb(C$_2$H$_5$NPb(NO$_3$)$_2$ as 0 at [illegible], the following values of electrode potential were found: Zn −0.818, Cd −0.580, H$_2$ −0.331, Cu 0.103, Ag 0.42, Hg 0.444. The values of σ (the activity coeff. of corresponding ions in 0.1 N solns.), E_0 (the normal electrode potential when Pb = 0), and E_{H_2O} (the normal electrode potential in water solns. when Pb = 0), respectively, are for Zn 0.44, −0.851, −0.27; Cd 0.44, −0.542, −0.27; Pb 0.42, 0, 0; H$_2$ 0.39, −0.337, 0.13; Cu 0.25, 0.095, 0.47; Ag 0.48, 0.403, 0.94; Hg 0.05, 0.421, 0.99. Enno Hammich



PLESKOV, V. A.

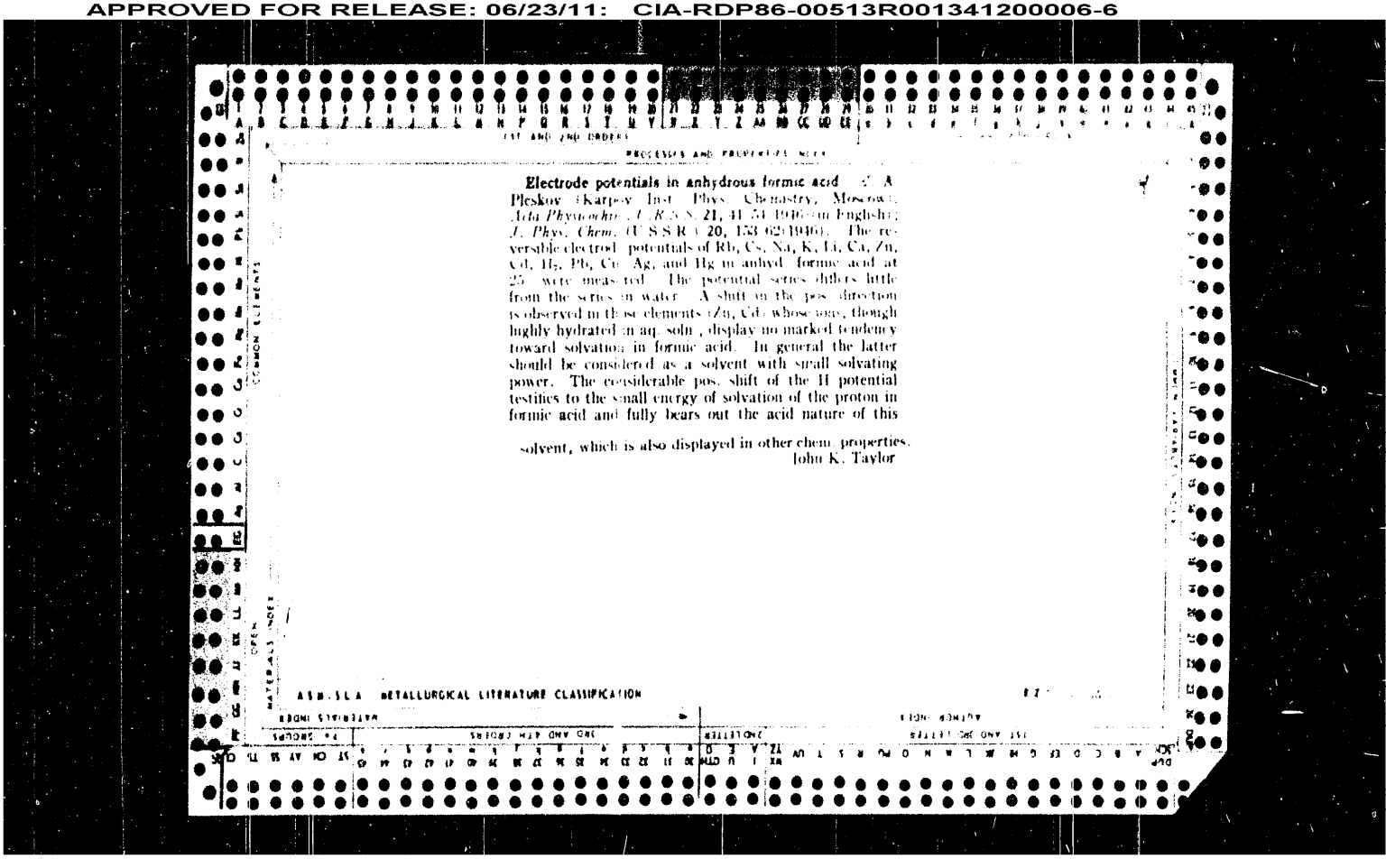
Physicochemical properties of solutions in compressed gases. III. Electrical conductivity of solutions of nitrates of alkali metals in liquid ammonia. A. M. MONOSZON AND V. A. PLESKOV. *J. Phys. Chem.* (U. S. S. R.) **3**, 221–35(1932); cf. *C. A.* **26**, 843.—Tables and figures give the elec. cond. of solns. of the nitrates of Li, Na, K, Rb and Ca in liquid NH_3 at —40° in concns. from 10 to 100,000 l. per mole. The μ_∞ values are $LiNO_3$, 290; $NaNO_3$, 300; KNO_3, 338; $RbNO_3$, 344; $CsNO_3$, 345; giving for the ions Li, 120; Na, 130; K, 168; Rb, 174, and Cs, 175. **IV. Electrical conductivity of solutions of nitrates of alkali metals in liquid ammonia under pressure.** *Ibid* 230–43.—M. and P. describe an app. for measuring the elec. cond. of solns. in liquid NH_3 under pressure up to 50°. Solns. of $LiNO_3$, $NaNO_3$ and KNO_3 in NH_3 from 30,000 to 100,000 l. per mole conduct the current about five times as well as the corresponding aq. solns. An app. for detg. viscosity of these solns. is also described. The values of η for liquid NH_3 are: at 10°, 0.00162; at 15°, 0.00155; at 20°, 0.00148. F. H. RATHMANN

ASM SEA METALLURGICAL LITERATURE CLASSIFICATION



Standard potential of caesium in liquid ammonia. V. Pleskov (*Acta Physicochim. U.R.S.S.*, 1948, **21**, 235—238).—The e.m.f. *E* of the cell Cs.Hg|$CsNO_3$ 0·01N.|KNO_3 saturated|$Pb(NO_3)_2$ 0·1N.|Pb, all solutions being in liquid NH_3, was measured at −25·0 ± 0·2° with a flowing Cs–Hg cathode containing 0·2827 at.-% Cs. *E* = 1·0785 v. The temp. coeff. between −33° and −38° = 0·0010 v. per degree. By comparison with the vals. of Bent *et al.* for the p.d. between pure Cs and Cs–Hg amalgam (A., 1939, I, 266), the standard potential of Cs in liquid NH_3 at −50° is calc. to be −0·02 v., i.e., almost exactly equal to that of Rb.

O. D. S.



Electrode potentials in anhydrous formic acid A. A. Pleskov (Karpov Inst. Phys. Chemistry, Moscow). *Acta Physicochim. U.R.S.S.* **21**, 41-54 (1946) (in English); *J. Phys. Chem. (U.S.S.R.)* **20**, 153-62 (1946). The reversible electrod. potentials of Rb, Cs, Na, K, Li, Ca, Zn, Cd, H_2, Pb, Cu, Ag, and Hg in anhyd. formic acid at 25° were measured. The potential series differs little from the series in water. A shift in the pos. direction is observed in those elements (Zn, Cd) whose ions, though highly hydrated in aq. soln., display no marked tendency toward solvation in formic acid. In general the latter should be considered as a solvent with small solvating power. The considerable pos. shift of the H potential testifies to the small energy of solvation of the proton in formic acid and fully bears out the acid nature of this solvent, which is also displayed in other chem. properties.

John K. Taylor

CA

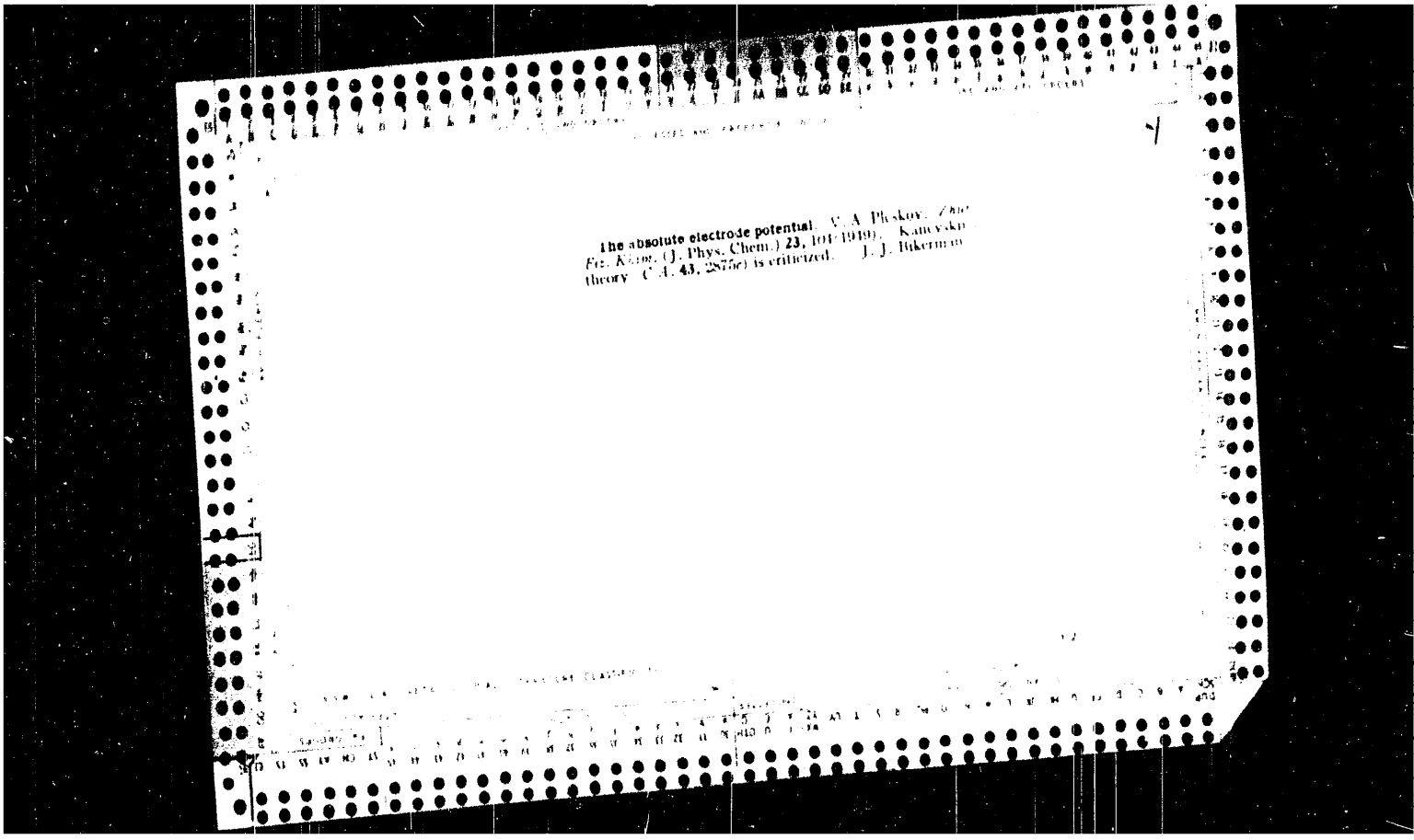
2

Measurement of exchange currents on amalgam electrodes with the aid of radioactive indicators. N. B. Miller and V. A. Pleskov (L. Ya. Karpov Phys. Chem. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* **74**, 323-5(1950). —The kinetics of the exchange of ions between an amalgam electrode and an aq. soln. were investigated by tagging the metal dissolved in the Hg with its radioactive isotopes and following the increase of the radioactivity of the (initially inactive) soln. Within the limits of 150 and 350 r.p.m., the results are practically independent of the rate of stirring; at higher rates, the contact surface area s does not remain const. The radioactivity n of the soln. at a given moment t follows the equation $\ln n_\infty/(n_\infty - n) = [(A + B)/AB]\, i\, s\, t$, where n_∞ = radioactivity of the soln. at equil., A and B = amts. of the metal in the amalgam and in the soln., resp., and i = exchange current in g./sq. cm./sec. Agreement between the observed and the calcd. n_∞ proved the absence of side reactions, e.g. oxidation or soln. of metal. Observed exchange current intensities i (ma./sq. cm.), with s = 5.5 sq. cm., air-free solns. were: Bi amalgam (0.703 at. % Bi, tagged with Bi^{210} (Ra E) 5 days), soln. $BiCl_3$ (c g.-equiv./l.) + HCl 1 N, c = 0.7, 0.14, 0.07, 0.018, 0.007, 0.0012, 0.0000), i = 110, 31, 14.2, 3.7, 1.4, 0.3, 0.09; Zn amalgam (0.985 at. % Zn, tagged with Zn^{65}, 250 days), soln. $ZnSO_4$, c = 2.0, 0.66, 0.2, 0.1, 0.05, 0.02, 0.01, 0.005, i = 80, 46, 27.5, 14.0, 7.4, 3.2, 1.7, 0.87, practically coinciding results with $ZnCl_2$, but no deins possible with $Zn(NO_3)_2$ owing to oxidation of the amalgam; Pb amalgam (0.587 at. % Pb, tagged with Pb^{210} (Ra D, 22 years), soln. $Pb(NO_3)_2$, c = 0.4, 0.1, 0.01, i = 42.0, 14.0, 1.6. The exchange metal $\rightleftarrows$ ion proceeds at a high but still measurable rate. The highest exchange rate found with amalgams is of the order of 0.1 amp./sq. cm., i.e. considerably lower than Rozental and Ershler's (*C.A.* **43**, 2523*a*) 0.4-0.8 amp./sq. cm. found with the aid of superposed a.c. On the other hand, the much too low exchange rates of Haissinsky and Cottin (*C.A.* **44**, 2338*e*) for Hg/Hg_2^{++} must be due to contamination by surface-active impurities which lower strongly the exchange current intensities of amalgams. N. Thon

MA

Electrochemistry

***Nitrogen Overvoltage [on Platinum] in the Electrolysis of Solutions in Liquid Ammonia.** N. M. Gesaler and V. A. Pleskov (*Zhur. Fiz. Khim.*, 1950, **24**, (4), 445-453). [In Russian]. The discrepancy between the high decompn. potentials of soln. in liq. NH_3 and the low free energy of decompn. can be explained by the large overvoltage, especially on the anode. This was proved by direct measurements of the N overvoltage on Pt in soln. of NH_4Cl, NH_4Br, NH_4ClO_4 and NH_4NO_3 in liq. NH_3 at $-50°$ C., which gave values of 1·2–1·4 V., irrespective of the nature of the anion. The overvoltage increased linearly with the log of the c.d., the slope of the line being $(2RT/F)$. G. and P. consider that the primary anodic process in soln. of strong acids is the electrochem. oxidation of NH_3, and that the anion is not discharged, though with NH_4I some I is evolved. The overvoltage arises mainly from the slowness of the electrochem. stage, not from the desorption of N from the electrode. In soln. of KNH_2, the evolution of N proceeds by discharge of NH_2' ions, since some hydrazine is formed.—G. B. H.



The absolute electrode potential. V. A. Pleskov. Zhu
Fiz. Khim. (J. Phys. Chem.) 23, 1011-19(1949). Kamenskii
theory. C.A. 43, 2875e) is criticized. J. J. Bikerman

PLESKOV, V.

Discussion

Pleskov, V. and Ershler, B., On the question concerning the calculation of separate electrode potentials from spectroscopic and thermodynamic data.

The Karpov
Physico-Chemical Institute
Moscow
April 29, 1948

SO: Journal of Physical Chemistry (USSR) 23, No. 1 (1949)

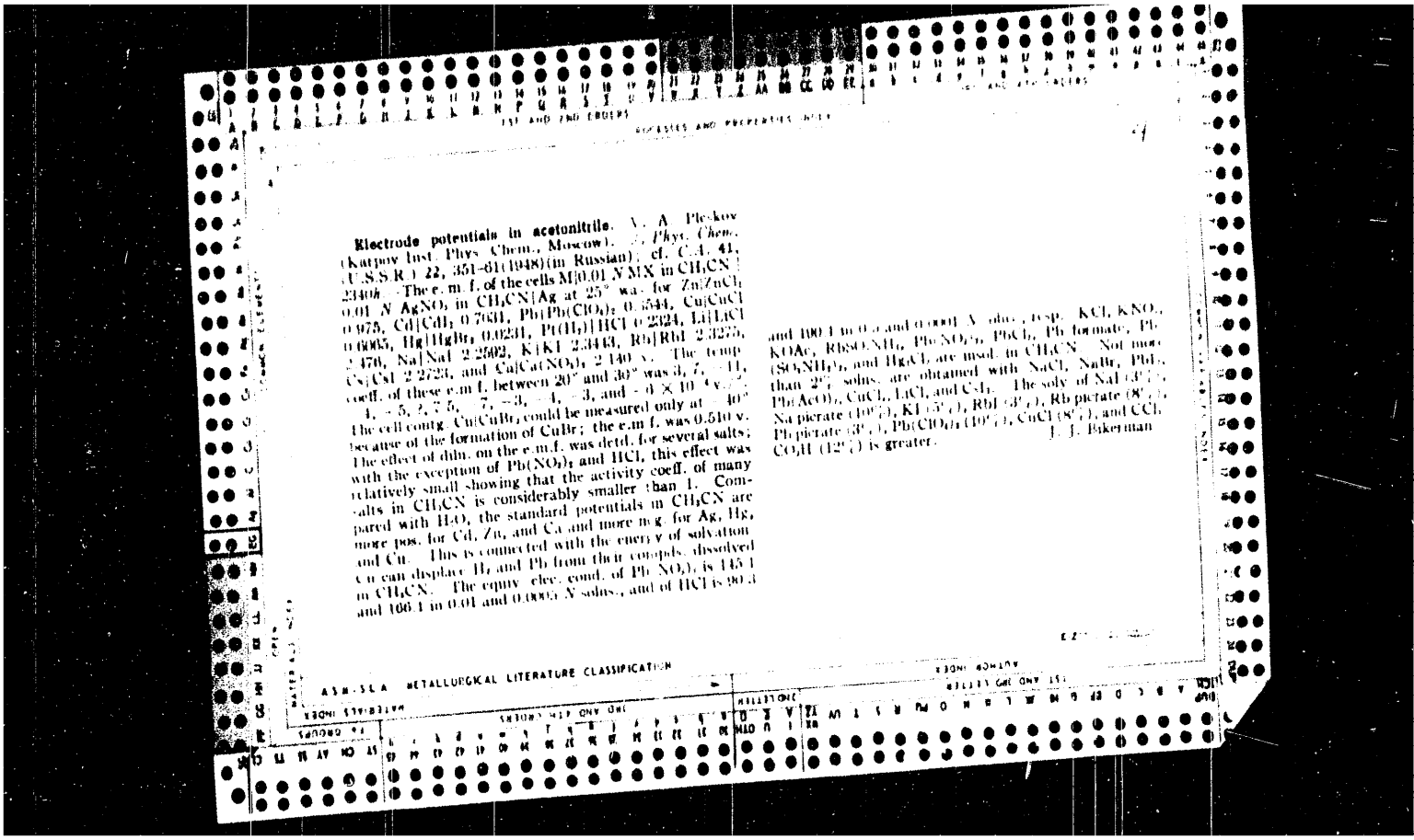
PLESKOV, V. A.

Discussion

Pleskov, V. A., On the question concerning the absolute electrode potential. (Concerning the article by E. A. Kanevskii, " On the theory of the electrode potential. I" .

The Karpov
Physico-Chemical Institute
Moscow
March 27, 1948

SO: Journal of Physical Chemistry (USSR) 23, No. 1 (1949)



Electrode potentials in acetonitrile. V. A. Pleskov (Karpov Inst. Phys. Chem., Moscow). *Zhur. Fiz. Chem. (U.S.S.R.)* **22**, 351–61 (1948) (in Russian); cf. *C.A.* **41**, 2340*h*. The e. m. f. of the cells M|0.01 *N* MX in CH_3CN|0.01 *N* $AgNO_3$ in CH_3CN|Ag at 25° was: for Zn|ZnCl 0.975, Cd|CdI_2 0.7631, Pb|$Pb(ClO_4)_2$ 0.3544, Cu|CuCl 0.0065, Hg|$HgBr_2$ 0.0231, Pt|(H_2)|HCl 0.2324, Li|LiCl 2.476, Na|NaI 2.2502, K|KI 2.3443, Rb|RbI 2.3275, Cs|CsI 2.2723, and Ca|$Ca(NO_3)_2$ 2.140 v. The temp. coeff. of these e.m.f. between 20° and 30° was 3, 7, −11, 4, −5, 2, 7.5, −7, −3, −4, −3, and −0.8 × 10⁻⁴ v./°. The cell contg. Cu|CuBr could be measured only at −40° because of the formation of CuBr; the e.m.f. was 0.510 v. The effect of dilu. on the e.m.f. was detd. for several salts; with the exception of $Pb(NO_3)_2$ and HCl, this effect was relatively small showing that the activity coeff. of many salts in CH_3CN is considerably smaller than 1. Compared with H_2O, the standard potentials in CH_3CN are more pos. for Cd, Zn, and Ca and more neg. for Ag, Hg, and Cu. This is connected with the energy of solvation. Cu can displace Hg and Pb from their complds. dissolved in CH_3CN. The equiv. elec. cond. of $Pb(NO_3)_2$ is 145.1 and 166.1 in 0.01 and 0.0001 *N* solns., and of HCl is 90.3 and 100.1 in 0.1 and 0.0001 *N* solns., resp. KCl, KNO_3, KOAc, $RbSO_3NH_2$, $Pb(NO_3)_2$, $PbCl_2$, Pb formate, Pb $(SO_3NH_2)_2$, and HgCl are insol. in CH_3CN. Not more than 2% solns. are obtained with NaCl, NaBr, PbI_2, $Pb(AcO)_2$, $CuCl_2$, LiCl, and CsI_2. The solv. of NaI (3°), Na picrate (10°), KI (5°), RbI (3°), Rb picrate (8°), Pb picrate (3°), $Pb(ClO_4)_2$ (10°), CuCl (8°), and CCl_3CO_2H (12°) is greater.

J. J. Bikerman

USSR/Chemistry - Acetonitrile
Chemistry - Potential, Electric

Mar 1948

"Electrode Potentials in Acetonitrile," V. A. Plaskov, Lab of Anhydrous Solutions, Physicochem Inst imeni Karpov, Moscow, 10½ pp

"Zhur Fiz Khim" Vol XXII, No 3

Acetonitrile is solution with indefinite fundamental character and tendency to combine with the ions of heavy metals (copper, silver, mercury). The electrode potentials of all alkali metals in acetonitrile, as in all other solutions tested, in comparison to water, remain practically unchanged. In the case of

65T14

USSR/Chemistry - Acetonitrile (Contd) Mar 1948

number of metals there was observed displacement of potential to the positive side, generally coinciding with decrease in solubility of the salts of these metals, and indicating some reduction of energy in the solvation of the corresponding ions. Submitted 23 Jun 1947.

65T14

PLASKOV, V. A.

PLESKOV V. A.

Mar 1947

USSR/Ions
Solvents

"Electrode Potentials and the Energy of Ion Solvation," V. A. Pleskov, 24 pp

"Uspekhi Khimii" Vol XVI, No 3

Largely mathematical discussion of the normal potential and solvent, the energy of ion solvation, solvation energy and the normal potential, the method of "the normal element," and the experimental determination of normal potentials in anhydrous solvents. Gives several tables, formulae and diagrams, and a full-page bibliography.

10T44

Z/039/60/021/01/029/040
E073/E135

AUTHOR: Professor Dr. V. Pleskot

TITLE: All-Czechoslovak Conference on Nomography

PERIODICAL: Slaboproudý Obzor, 1960, Vol 21, Nr 1, pp 60-61

ABSTRACT: This conference was held on September 7 to 9, 1959, in Prague. It was organised by the Chair for Mathematics and Descriptive Geometry of the Geodesy Department, Czech Technical University, jointly with the Society of Czech Mathematicians and Physicists. There were over 200 participants from research institutes, teaching establishments and industry. There were 19 visitors from abroad. 14 papers were read in the plenary sessions, and 22 papers in three sectional meetings. Of the foreign visitors, the following read lectures: Academician M.V. Pentkovskiy, Alma Ata USSR (who is stated to be the founder of modern effective methods in nomography); G.S. Khovanskiy, Moscow; Professor E. Otto, Warsaw Polytechnic; Docent G. Petrov and Docent S. Christov, Sofia.
There was an exhibition accompanying the conference.

Card 1/2

KASPAR, Jan; PLESKOT, Vaclav

Commemorating the 80th birthday of professor Frantisek Fiala.
Aplikace mat 8 no.1:79-80 '63.

Pleskot, V.

A study trip to Hungary. P. 131
CASOPIS PRO PESTOVANI MATEMATIKY. (Ceskoslovenska akademie ved. Matematicky ustav) Praha
Vol. 81, no. 1, Apr. 1956

Source: EEAL - LC Vol. 5. No. 10 Oct. 1956

PLESKOT, V.

PLESKOT, V. Automatic computing machines. III. A review of a symposium. p. 173.

Vol. 17, No. 10, Oct. 1956.
SLABOPROUDY OBZOR.
TECHNOLOGY
Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 3, March 1957

PLESKOT, Vaclav, prof. dr.

Principles of programming for automatic computers. El tech. obzor 53 no. 5:Supplement: Prakticka priloha 53 no. 5:T1-T8 '64.

PLESKOT, Vaclac, prof. dr.

Principles of programming for automatic computers. El tech obzor 53 no.7: Supplement: Prakticka priloha 53 no.7: Jl'64

PLESKOT, Vaclav, prof. dr.

Principles of programming for automatic computers. Pt. 4. Elektron
obzor 53 no.9: Suppl: Prakticka priloha 53 no.9:T29-T38 S '64.

PLESKOT,V. (Prague); ZATOPEK, A. (Prague)

Recollections about Professor Vaclav Laska. Cas pro pest mat 89 no.2:247-249 Ap '64

PLESKOT, Jaroslav, inz.

Some experience in the operation of high-pressure heaters.
Energetika Cz 13 no.5:250-251 My '63.

1. Elektrarna Opatovice.

AMS

PLESKOT, G.

551.526.8 [illegible]

[illegible] 113

Pleskot, Gertrud. Wassertemperatur und Leben im Bach. (Limnologische Studien in den Gebieten der Lunzer Seen und des Wienerwaldes.) (Water temperature and [illegible] (limnological studies in the region of the Lunz lakes and the Vienna forest.) [illegible] Leben, 3(5-7):129-143, June 1951. fig., 2 tables, 24 refs. MH-BH [illegible] peratures of a number of streams in relation to the distribution of various [illegible] insects. Subject Headings: 1. Water temperatures 2. Lakes and rivers 3. Limnology. C.E.P.B.

PLESKOT, F.; PROCHAZKOVA, V.; VIT, R.

Activation of the EEG by Pentothal thiopental . Cas. lek. cesk. 103 no.39:1087-1091 25 S '64.

1. Neurologicke oddeleni Ustredni vojenske nemocnice v Praze (vedouci MUDr. F. Pleskot).

PLESKOT, Frantisek, plukovnik, MUDr.; PROCHAZKOVA, Vlasta, MUDr.

Lumbosciatic syndrome in the light of clinical statistics.
Voj. zdrav. listy 34 no.2:51-52 Ap '65

1. Neurologicke oddeleni Ustredni vojenske nemocnice v Praze.